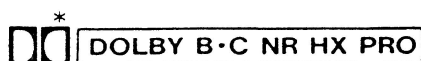


# Service Manual

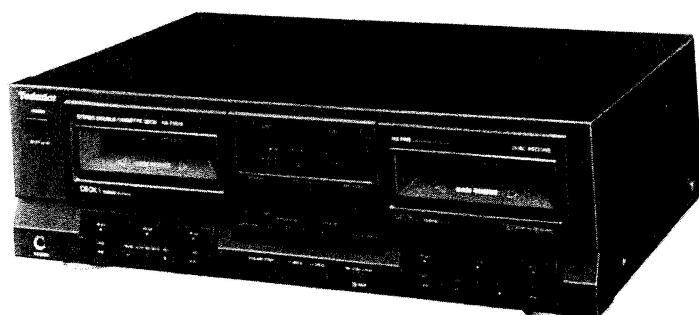
Dolby NR-Equipped  
Stereo Double Cassette Deck

Cassette Deck  
**RS-TR515**



**Color**

(K)...Black Type



\* HX Pro headroom extension originated by Bang Olufsen and manufactured under license from Dolby Laboratories Licensing Corporation. "DOLBY", the double-D symbol, and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.

## Area

Country Code	Area	Color
(P)	U.S.A.	(K)
(PC)	Canada.	
(E)	Continental Europe.	
(EB)	Great Britain.	
(EG)	F.R. Germany and Italy.	
(GC)	Asia, Latin America, Middle NEar East and Africa.	
(GN)	Oceania.	
(PX)	Far East-PX	

## RS-T330R MECHANISM SERIES (AR300)

## SPECIFICATIONS

### ■ CASSETTE DECK SECTION

<b>Deck system</b>	Stereo cassette deck
<b>Track system</b>	4-track, 2-channel
<b>Recording system</b>	AC bias
<b>Bias frequency</b>	80 kHz
<b>Erasing system</b>	AC erase
<b>Heads</b>	
<b>Tape deck 1</b>	Recording/Playback head (Permalloy)×1 Erasing head (Double-gap ferrite)×1
<b>Tape deck 2</b>	Recording/Playback head (Permalloy)×1 Erasing head (Double-gap ferrite)×1
<b>Motors</b>	
<b>Tape deck 1</b>	Capstan/reel table drive (DC servo motor)×1
<b>Tape deck 2</b>	Capstan/reel table drive (DC servo motor)×1
<b>Tape speed</b>	4.8 cm/sec. (1 $\frac{7}{8}$ ips)
<b>Wow and flutter</b>	
<b>For (P, PC) areas</b>	0.1% (WRMS)
<b>For others</b>	0.07% (WRMS)
<b>Fast forward and rewind times</b>	Approx. 110 seconds with C-60 cassette tape
<b>Frequency response (Dolby NR off)</b>	
<b>NORMAL</b>	40 Hz~15 kHz, ±3 dB 20 Hz~17 kHz
<b>CrO<sub>2</sub></b>	40 Hz~15 kHz, ±3 dB 20 Hz~17 kHz
<b>METAL</b>	40 Hz~16 kHz, ±3 dB 20 Hz~18 kHz

**S/N** (Signal level=max recording level, CrO<sub>2</sub> type tape)

<b>NR off</b>	56 dB (A weighted)
<b>Dolby B NR on</b>	66 dB (CCIR)
<b>Dolby C NR on</b>	74 dB (CCIR)

**Input sensitivity and impedance**

<b>LINE IN</b>	60 mV/47 kΩ
----------------	-------------

**Output voltage and impedance**

<b>LINE OUT</b>	400 mV/800Ω
<b>HEADPHONES</b>	30 mV/(8Ω) (Load impedance 8Ω~600Ω)

### ■ GENERAL

**Power consumption** 21 W

**Power supply**

<b>For (P, PC) areas</b>	AC 60 Hz, 120 V
<b>For (GC, PX) areas</b>	AC 50/60 Hz, 110 V/127 V/220 V/240 V
<b>For others</b>	AC 50/60 Hz, 230~240 V

**Dimensions (W×H×D)**

430×136×290 mm (16 $\frac{15}{16}$ "×5 $\frac{3}{8}$ "×11 $\frac{13}{32}$ "
--

**Weight**

4.8 kg (10.6 lb.)

**Note:**

Specifications are subject to change without notice.  
Weight and dimensions are approximate.

# Technics

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TERMINAL FUNCTION OF IC'S .....	29		

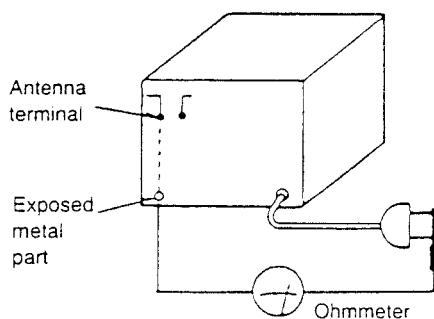
## SAFETY PRECAUTION (This "safety precaution" is applied only in U.S.A.)

1. Before servicing, unplug the power cord to prevent an electric shock.
2. When replacing parts, use only manufacturer's recommended components for safety.
3. Check the condition of the power cord. Replace if wear or damage is evident.
4. After servicing, be sure to restore the lead dress, insulation barriers, insulation papers, shields, etc.
5. Before returning the serviced equipment to the customer, be sure to make the following insulation resistance test to prevent the customer from being exposed to a shock hazard.

### INSULATION RESISTANCE TEST

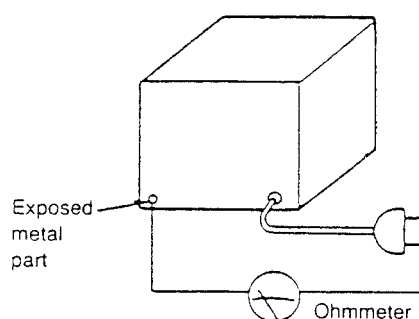
1. Unplug the power cord and short the two prongs of the plug with a jumper wire.
2. Turn on the power switch.
3. Measure the resistance value with ohmmeter between the jumpered AC plug and each exposed metal cabinet part, such as screwheads antenna, control shafts, handle brackets, etc. Equipment with antenna terminals should read between 3 MΩ and 5.2 MΩ to all exposed parts. (Fig. A) Equipment without antenna terminals should read approximately infinity to all exposed parts. (Fig. B)

**Note:** Some exposed parts may be isolated from the chassis by design. These will read infinity.



(Fig. A)

Resistance=3 MΩ-5.2 MΩ

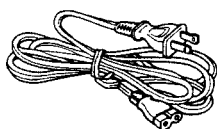


(Fig. B)

Resistance=Approx. ∞

4. If the measurement is outside the specified limits, there is a possibility of a shock hazard. The equipment should be repaired and rechecked before it is returned to the customer.

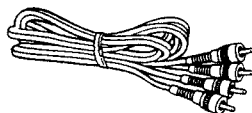
## ACCESSORIES



AC power supply cord

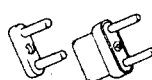
(RJA0004) ..... (GC, PX)  
(SFDAC05E03) ..... (E, EG)  
(SJA173) ..... (GN)  
(SJA175) ..... (PC)  
(SJA175-1) ..... (P)  
(SJA193) ..... (EB)

..... 1 pc.



Stereo connection cable

(SJP2249-3) ..... 2 pcs.



Power plug adaptor

(SJP9215) ..... 1 pc.  
(For GC, PX areas only)

Stereo mini cable

(SJP2257T) ..... 2 pcs.



Remote control cable ..... 1 pc.



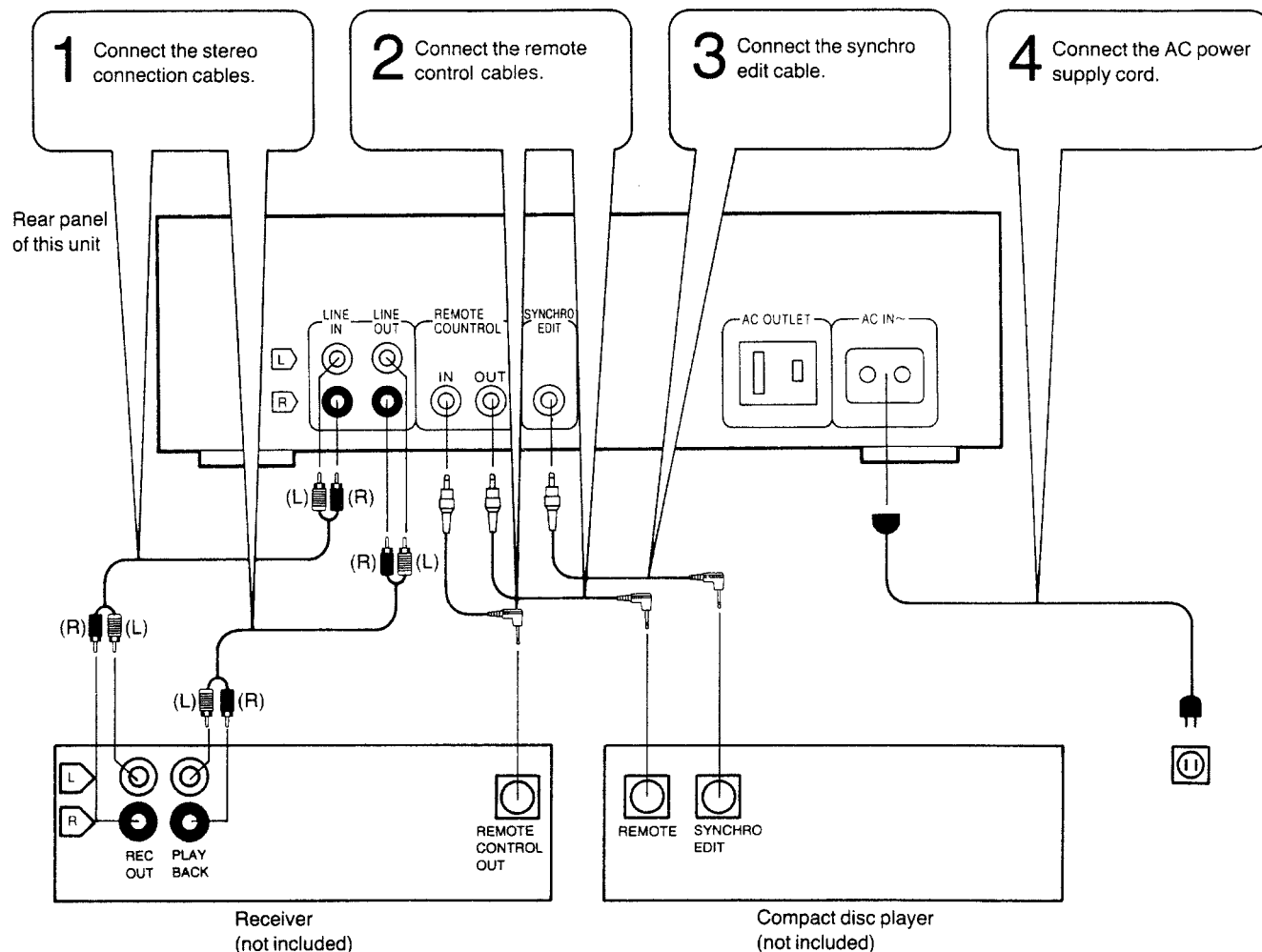
Synchro edit cable ..... 1 pc.

**Note:** Configuration of AC power supply cord differs according to area.

## ■ CONNECTIONS

Before making connections, be sure that the power to this unit and all other system components are turned off first.

See the operating instructions of the amplifier or the compact disc player for details.



- 1 Connect the stereo connection cables (included) to the REC OUT and PLAYBACK terminals of the receiver.
- 2 Use the included remote control cable to connect the REMOTE CONTROL Input to the REMOTE CONTROL Output on the Receiver.

The following functions can be operated by remote-control (When connected to the appropriate Technics receiver): Playback, Stop, Pause, Rewind/fast-forward search, Record, Auto record mute, and 1-2 (A-B) deck selection.

The REMOTE CONTROL "OUT" terminal is provided to connect a Technics Compact Disc Player or Graphic Equalizer.

- 3 Connect the synchro edit cable (included) to the "SYNCHRO EDIT" terminal of selected Technics compact disc player.
- 4 Connect the power supply cord (included) to the household AC outlet (AC 120 V/60 Hz, P, PC areas only).

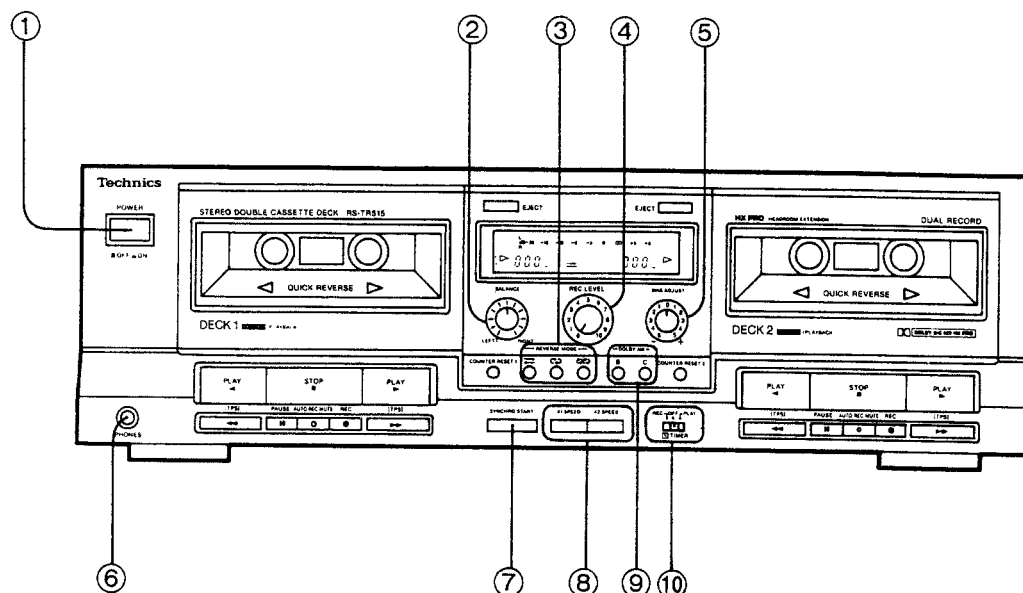
The REMOTE CONTROL and SYNCHRO EDIT terminals can only be used with selected Technics Components. Please contact your dealer for details.

### "AC OUTLET" (UNSWITCHED: P, PC areas only)

Power is always available, regardless of the unit's power switch setting.

Audio equipment rated up to 80W can be connected.

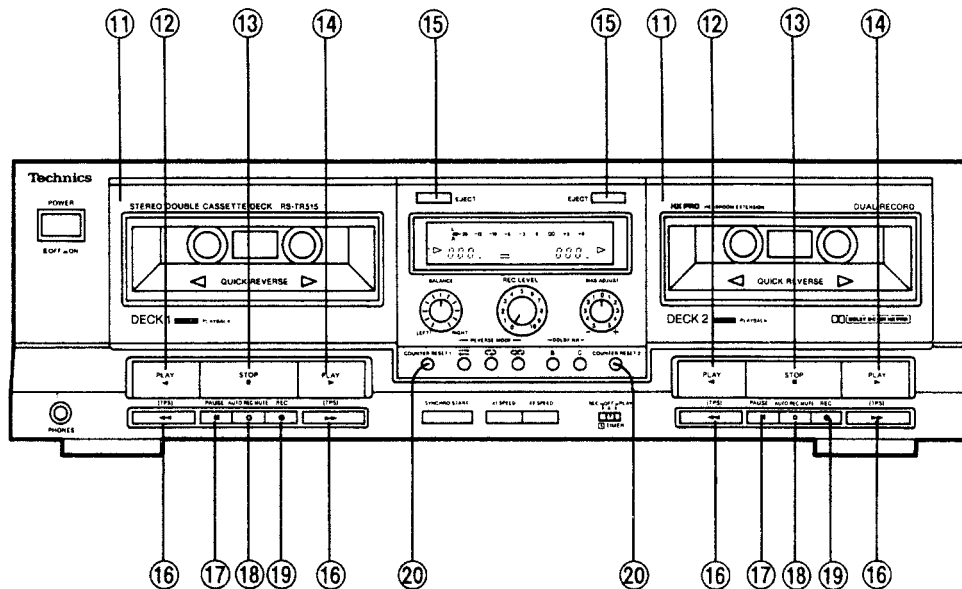
## LOCATION OF CONTROLS



## Control section

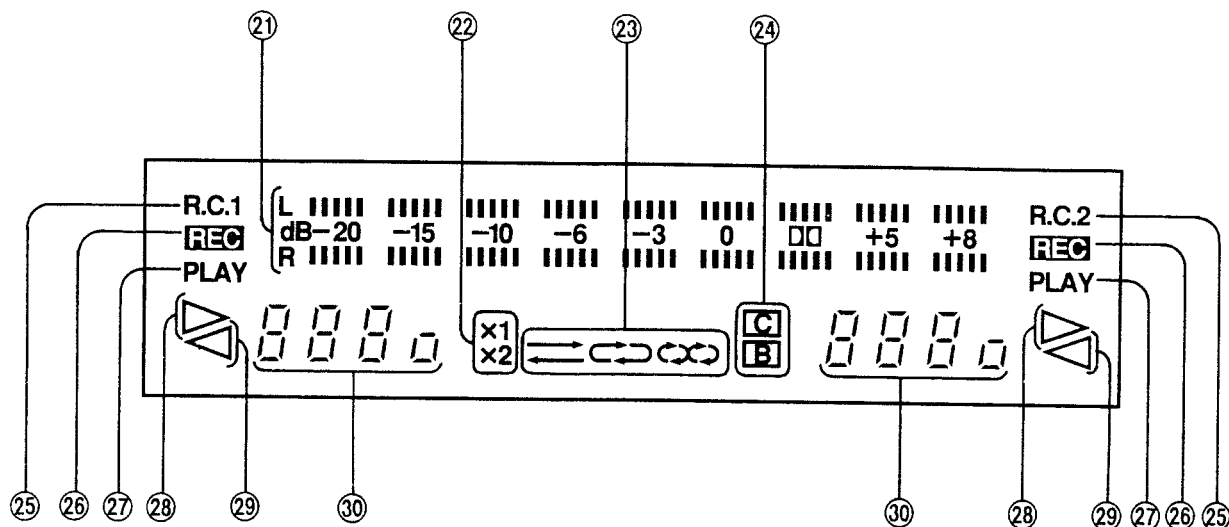
### Controls common to both tape decks

- ① **Power switch (POWER)**.....For P, PC areas  
Press (⏻) to switch the power on.  
Press again (⏻) to switch the power off.  
  
**Power "STANDBY ⏻/ON" switch...For others (POWER ⏻ STANDBY ⏻ ON)**  
This switch switches ON and OFF the secondary circuit power only. The unit is in the "standby" condition when this switch is set to the STANDBY ⏻ position. Regardless of the switch setting, the primary circuit is always "live" as long as the power cord is connected to an electrical outlet.
- ② **Recording-balance control (BALANCE)**  
This control is used to balance the left and right sound levels during recording.
- ③ **Reverse-mode selectors (REVERSE MODE)**  
These selectors are used for selection of the reverse mode (for either playback or recording).
- ④ **Recording-level control (REC LEVEL)**  
This control is used to regulate the recording level.
- ⑤ **Bias-adjustment control (BIAS ADJUST)**  
The frequency response for each tape type can be equalized by using this control (for only deck 2).
- ⑥ **Headphones jack (PHONES)**
- ⑦ **Synchro-start button (SYNCHRO START)**  
This button is used to start a tape-to-tape recording, simultaneously starting deck 1 (the playback deck) and deck 2 (the recording deck).
- ⑧ **Edit-recording tape-speed buttons (×1 SPEED, ×2 SPEED)**  
These buttons are used to select the recording speed during edit-recording.
- ⑨ **Dolby noise-reduction buttons (DOLBY NR)**  
These buttons are used to reduce the hissing noise heard from the tape. This unit is provided with both the B-type and C-type noise-reduction systems.
- ⑩ **Timer switch (⏰ TIMER)**  
This switch is used to automatically begin a tape recording or tape playback at a certain time, selected by an optional timer.



## Controls applicable to tape deck 1 and/or 2

- ⑪ **Cassette holder**
- ⑫ **Reverse-side playback button (◀ PLAY)**  
This button is used to start the playback or recording of side "B" of the cassette.  
(The tape will move in the right-to-left direction.)
- ⑬ **Stop button (■ STOP)**  
This button is used to stop the tape movement.
- ⑭ **Forward-side playback button (▶ PLAY)**  
This button is used to start the playback or recording of side "A" of the cassette.  
(The tape will move in the left-to-right direction.)
- ⑮ **Eject button (EJECT)**  
This button is used to open the cassette holder.
- ⑯ **Rewind/fast-forward search button (◀◀/▶▶ TPS)**  
These TPS (Tape Program Search) buttons are used to advance or rewind the tape, or to easily and quickly search for the program's beginning of the tape.
- ⑰ **Pause button (|| PAUSE)**  
This button is used to temporarily stop the tape playback or recording of the deck.
- ⑱ **Automatic-record-muting button (□ AUTO REC MUTE)**  
This button is used to make a silent interval on the tape while recording is in progress.
- ⑲ **Record button (● REC)**  
This button is used to set the deck to the recording stand-by mode.
- ⑳ **Tape counter reset button (COUNTER RESET 1, COUNTER RESET 2)**  
This button is used to reset the tape counter indication to "000".



## Display section

### Indicators common to both tape decks

- ②① **Input level meter**  
During playback, this meter indicates the level of the recorded sound.  
During recording, it indicates the level being recorded, adjusted by the recording-level control.
- ②② **Edit-recording tape-speed indicators (×1, ×2)**  
One of these indicators illuminates to show which of the tape-to-tape recording speeds was selected by pressing one of the edit-recording tape-speed buttons.
- ②③ **Reverse-mode indicators (⏮, ⏪, ⏩, ⏭)**  
Each indicator illuminates to show which of the reverse modes was selected by the reverse-mode selectors.
- ②④ **Dolby noise-reduction indicators (B, C)**  
Each indicator illuminates to show the type of Dolby noise-reduction system selected by pressing one of the Dolby noise-reduction buttons.

### Indicators applicable only to tape deck 1 or 2

- ②⑤ **Remote-control indicator (R.C.1, R.C.2)**  
Illuminates to indicate that this unit can now be controlled by the remote-control transmitter of the appropriate receiver connected.
- ②⑥ **Recording indicator (REC)**  
Illuminates to indicate that this unit is in the recording stand-by mode or is recording.
- ②⑦ **Playback indicator (PLAY)**  
When this indicator illuminates steadily, it indicates that this unit is in the playback or recording mode.  
When flashing, indicates that this unit is in the pause mode or in the recording stand-by mode.
- ②⑧ **Forward-side indicator (▷)**  
Illuminates during playback or recording to indicate that side "A" of the tape is being used.
- ②⑨ **Reverse-side indicator (◁)**  
Illuminates during playback or recording to indicate that side "B" of the tape is being used.
- ③⑦ **Tape counter**  
Indicates the amount of tape movement. The least significant digit indicates tape movement.

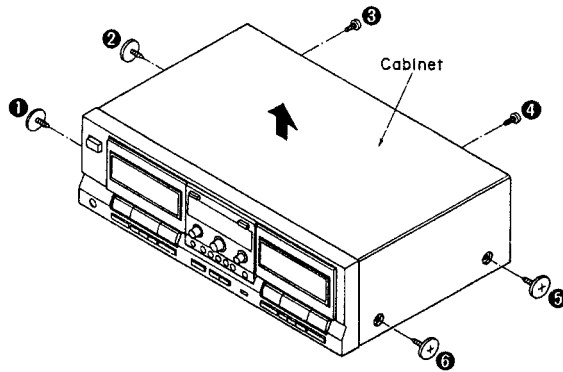
# DISASSEMBLY INSTRUCTIONS

## "ATTENTION SERVICER"

Some chassis components may have sharp edges. Be careful when disassembling and servicing.

### Ref. No. 1 Removal of the cabinet

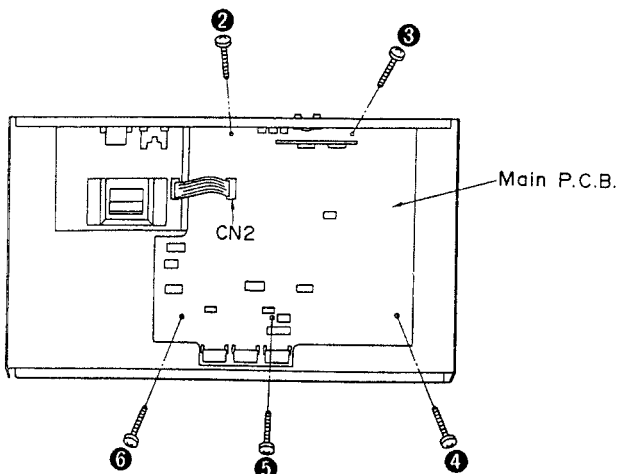
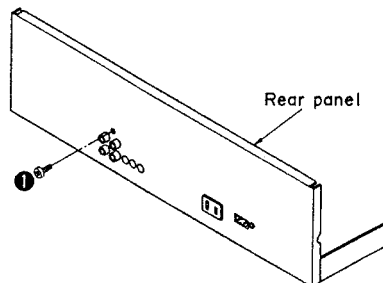
#### Procedure 1



- Remove the 6 screws (1~6).

### Ref. No. 3 Removal of the main P.C.B.

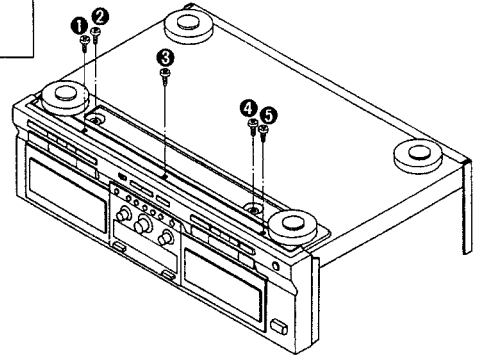
#### Procedure 1→2→3



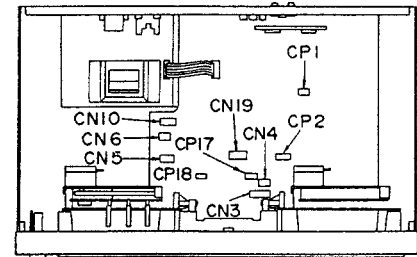
1. Remove the 6 screws (1~6).
2. Remove the 1 flat cable (CN2).

### Ref. No. 2 Removal of the front panel ass'y

#### Procedure 1→2



1. Remove the 5 screws (1~5).

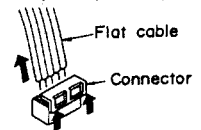
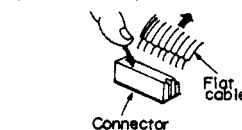


Front panel ass'y

2. Remove the 4 connectors (CP1, CP2, CP17, CP18).
3. Remove the 6 flat cables (CN3, CN4, CN5, CN6, CN10, CN19).
4. Remove the front panel ass'y in the direction of arrow.

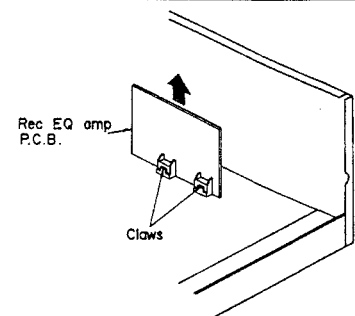
#### How to remove the flat cable

- Pull out the flat cable while pressing the connector.
1. Lift the connector.
  2. Pull out the flat cable.

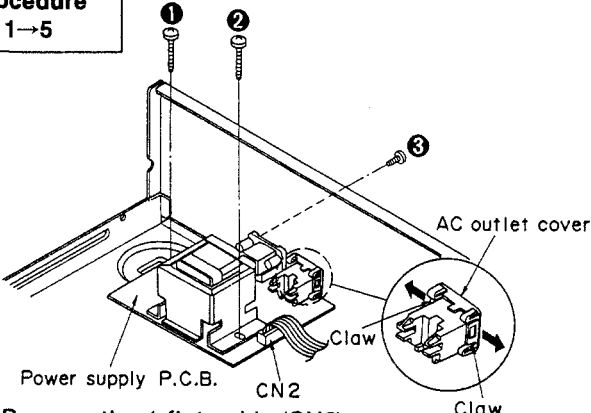
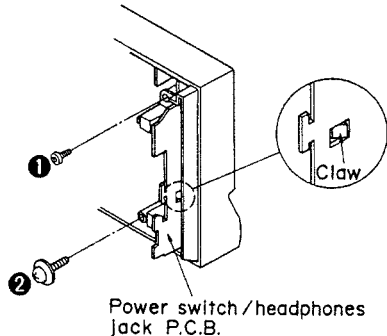
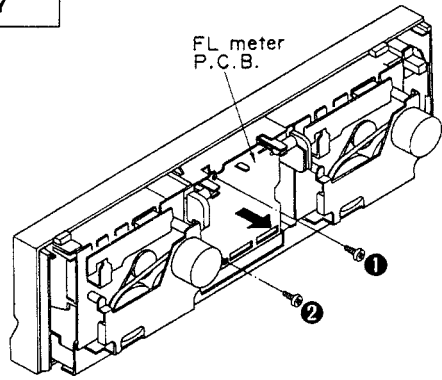
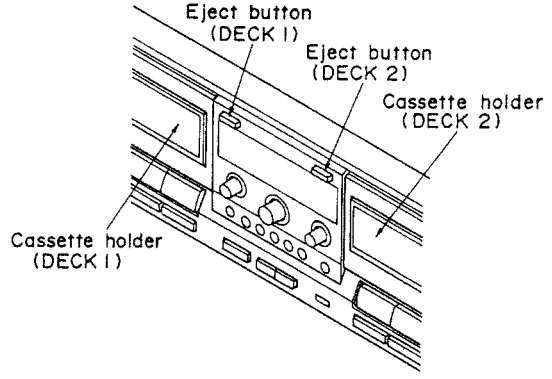
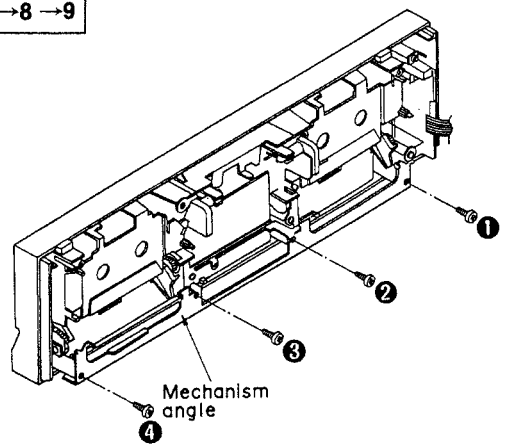
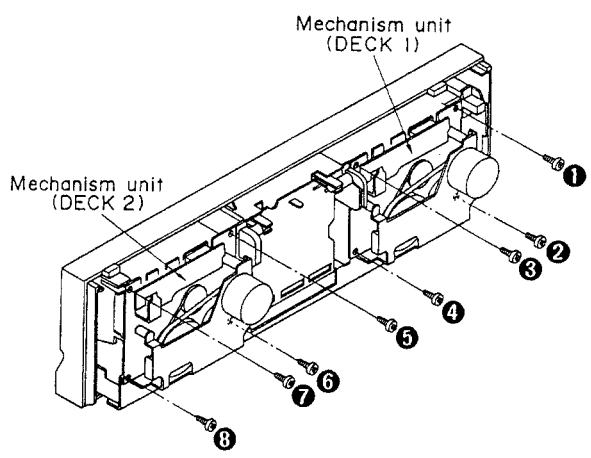


### Ref. No. 4 Removal of the rec EQ amp P.C.B.

#### Procedure 1→4



- Release the 2 claws and then remove the rec EQ amp P.C.B. in the direction of arrow.

<b>Ref. No.</b> 5	<b>Removal of the power supply P.C.B.</b>	<b>Ref. No.</b> 6	<b>Removal of the power switch/headphones jack P.C.B.</b>
<b>Procedure</b> 1→5	 <ol style="list-style-type: none"> <li>1. Remove the 1 flat cable (CN2).</li> <li>2. Remove the 3 screws (①~③).</li> <li>3. Release the 2 claws of the AC outlet cover. (P, PC areas only.)</li> </ol>	<b>Procedure</b> 1→2→6	 <ol style="list-style-type: none"> <li>1. Remove the 2 screws (①, ②).</li> <li>2. Release the 1 claw.</li> </ol>
<b>Ref. No.</b> 7	<b>Removal of the FL meter P.C.B.</b>	<b>Ref. No.</b> 8	<b>Removal of the mechanism units (DECK 1, DECK 2)</b>
<b>Procedure</b> 1→2→7	 <ol style="list-style-type: none"> <li>1. Remove the 2 screws (①, ②).</li> <li>2. Remove the FL meter P.C.B. in the direction of arrow.</li> </ol>	<b>Procedure</b> 1→2→8	<p>■ <b>Mechanism Unit (DECK 1)</b></p> <ol style="list-style-type: none"> <li>1. Press the eject button and open the cassette holder.</li> <li>2. Remove the 4 screws (①~④).</li> </ol> <p>■ <b>Mechanism Unit (DECK 2)</b></p> <ol style="list-style-type: none"> <li>1. Press the eject button and open the cassette holder.</li> <li>2. Remove the 4 screws (⑤~⑧).</li> </ol> 
<b>Ref. No.</b> 9	<b>Removal of the mechanism angle</b>		
<b>Procedure</b> 1→2→7→8→9	 <p>• Remove the 4 screws (①~④).</p>		



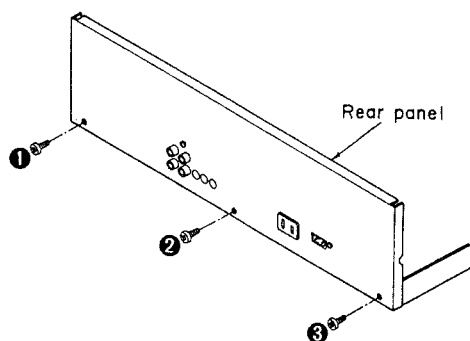
<b>Ref. No.</b> 10	<b>Removal of the eject angle, eject buttons, and eject Lever</b>	
<b>Procedure</b> 1→2→7→8→10		
<b>Ref. No.</b> 11	<b>Removal of the cassette holder (DECK 1, DECK 2)</b>	
<b>Procedure</b> 1→2→7→8 →9→11		
<b>Ref. No.</b> 12	<b>Removal of the operation P.C.B. (DECK 1) and operation P.C.B. (DECK 2)</b>	
<b>Procedure</b> 1→2→7→8 →9→11→12		

Ref. No.  
13

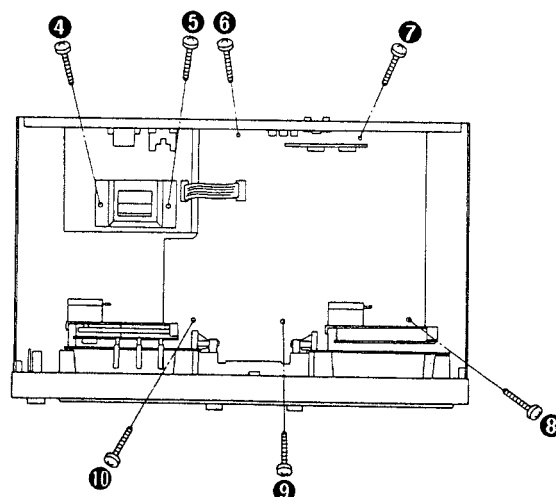
## How to check the main P.C.B.

Procedure  
1→13

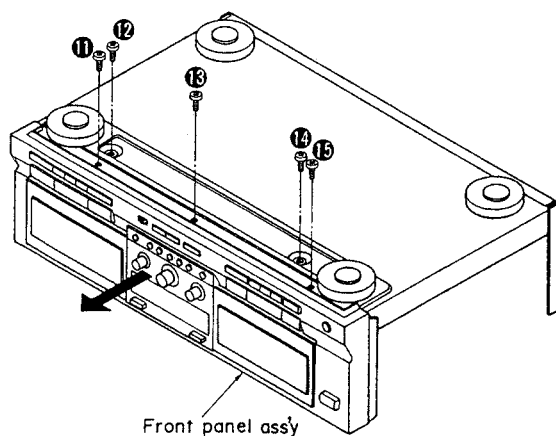
- When checking the soldered surfaces of main P.C.B. and replacing the parts, do as show.



1. Remove the 3 screws (1~3).

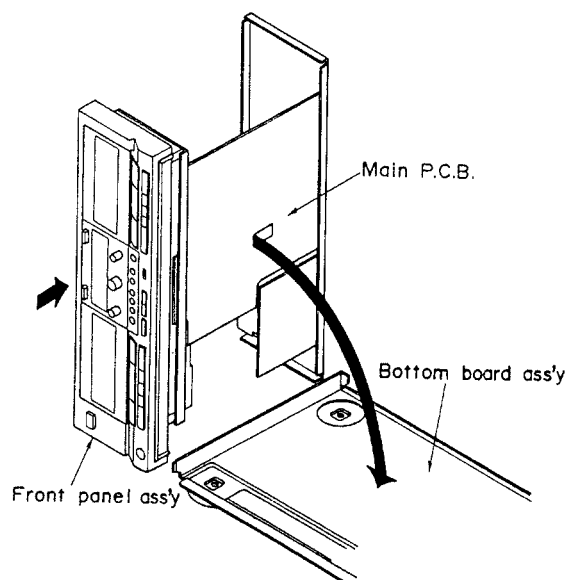


2. Remove the 7 screws (4~10).



3. Remove the 5 screws (11~15).

4. Remove the front panel ass'y in the direction of arrow.



5. Remove the bottom board ass'y.

6. Reinstall the front panel ass'y to the main P.C.B.

## MEASUREMENTS AND ADJUSTMENTS

### Measurement Condition

- Rec. level control; Maximum
- Timer switch; Off
- Recording-balance control; Center
- Bias-adjustment control; Center
- Reverse-mode selector switch;  $\rightleftarrows$
- Edit-recording tape-speed selector switch; X1
- Dolby NR switch; Off

- Make sure heads are clean
- Make sure capstan and pressure roller are clean
- Judgeable room temperature  $20 \pm 5^\circ\text{C}$  ( $68 \pm 9^\circ\text{F}$ )

### Measuring instrument

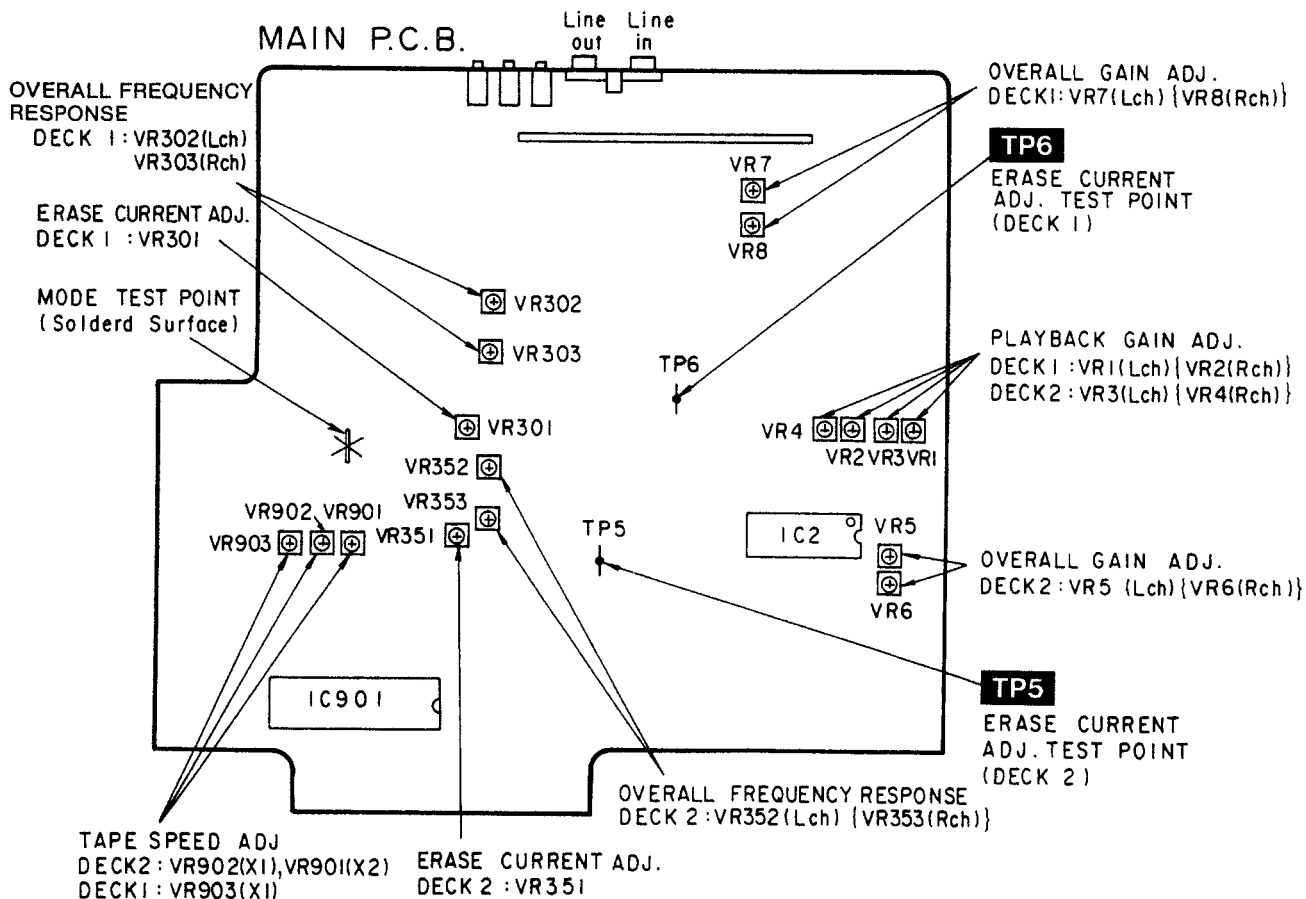
- EVM (Electronic Voltmeter)
- Oscilloscope
- Digital frequency counter
- AF oscillator

- ATT (Attenuator)
- DC voltmeter
- Resistor ( $600\Omega$ )

### Test tape

- Head azimuth adjustment (8kHz,  $-20\text{dB}$ ); QZZCFM
- Tape speed adjustment (3kHz,  $-10\text{dB}$ ); QZZCWAT
- Playback frequency response (315Hz, 12.5kHz, 10kHz, 8kHz, 4kHz, 1kHz, 250Hz, 125Hz, 63Hz,  $-20\text{dB}$ ); QZZCFM
- Playback gain adjustment (315Hz, 0dB); QZZCFM
- Overall frequency response, Overall gain adjustment  
Normal reference blank tape; QZZCRA  
CrO<sub>2</sub> reference blank tape; QZZCRX  
Metal reference blank tape; QZZCRZ

### Adjustment Points



**HEAD AZIMUTH ADJUSTMENT (DECK 1/2)**

1. Playback the azimuth adjustment portion (8kHz, -20dB) of the test tape (QZZCFM). Vary the azimuth adjusting screw until the output of the R-CH are maximized.
2. Perform the same adjustment in the play mode.
3. After the adjustment, apply screwlock to the azimuth adjusting screw.

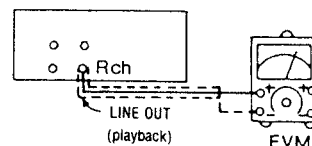


Fig. 1

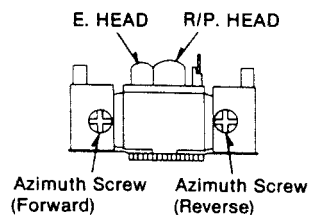


Fig. 2

**TAPE SPEED ADJUSTMENT (DECK 1/2)****Normal speed**

1. Shift the edit-recording tape-speed selector switch to "X1" and press the synchro-start button.
2. Playback the middle portion of the test tape (QZZCWAT).
3. Adjust Deck 1=VR903 and Deck 2=VR902 so that the output is within the standard value.

**High speed**

4. Shift the edit-recording tape-speed switch selector to "X2" and press the synchro-start button.
5. Playback the middle portion of the test tape (QZZCWAT).
6. Adjust Deck 2=VR901 so that the output is within the standard value.

**Note:** The Normal speed adjustment must be done before the High speed adjustment.

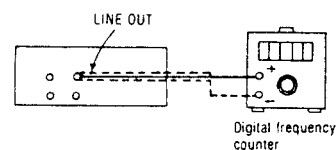


Fig. 3

(DECK 1) Standard value: 3000 ± 15 Hz [Normal (X1)], 6000 ± 600 Hz [High (X2), only confirmation]  
 (DECK 2) Standard value: 3000 ± 15 Hz [Normal (X1)], 6000 ± 30 Hz [High (X2)]

**PLAYBACK GAIN ADJUSTMENT (DECK 1/2)**

1. Playback the gain adjusted portion (315Hz, 0dB) of the test tape (QZZCFM).
2. Adjust Deck 1=VR1 (L-CH) [[VR2 (R-CH)]] and Deck 2=VR3 (L-CH) [[VR4 (R-CH)]] so that the output is within the standard value.

Standard value: 0.4V ± 0.5dB

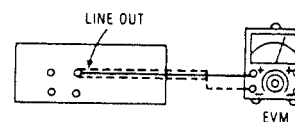


Fig. 4

**PLAYBACK FREQUENCY RESPONSE (DECK 1/2)**

1. Playback the frequency response portion (315Hz, 12.5kHz~63Hz, -20dB) of the test tape (QZZCFM).
2. Assure that the frequency response is within the range shown in Fig. 6 for both L-CH and R-CH.

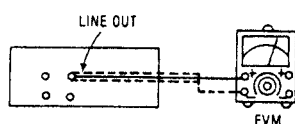


Fig. 5

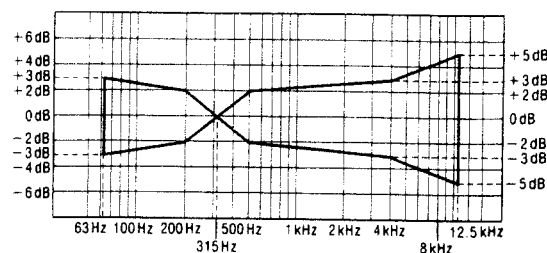
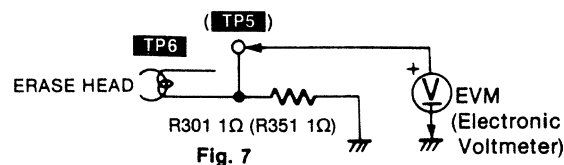


Fig. 6

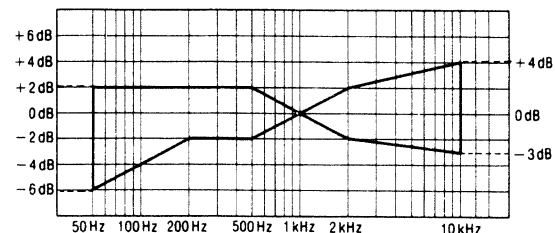
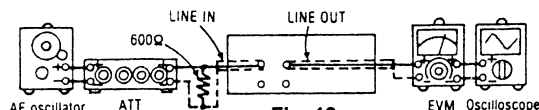
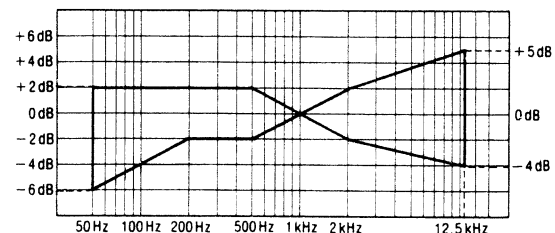
**ERASE CURRENT ADJUSTMENT (DECK 1/2)**

1. Insert the Metal blank test tape (QZZCRZ) and set the unit to the Record Pause mode.
2. Adjust Deck 1=VR301 (Deck 2=VR351) so that the output between Deck 1=TP6 (Deck 2=TP5) and GND is within the standard value.

Standard value:  $190 \pm 5 \text{ mA (Metal)} \dots \text{EVM Reading: } 190 \pm 5 \text{ mV}$

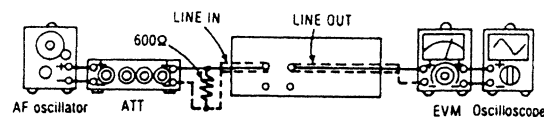
**OVERALL FREQUENCY RESPONSE (DECK 1/2)**

1. Insert the Normal blank test tape (QZZCRA) and set the unit to the Record Pause mode.
2. Apply a reference input signal (1kHz, -24dB) through an attenuator.
3. Attenuate the signal by 20dB and adjust the frequency from 50Hz~10kHz.
4. Record the frequency sweep.
5. Playback the recorded signal and assure that it is within the range shown in Fig. 8 in comparison to the reference frequency (1kHz).
6. If it is not within the standard range, adjust Deck 1=VR302 (Deck 2=VR352) (L-CH) and Deck 1=VR303 (Deck 2=VR353) (R-CH) so that the frequency level is within the standard range.
  - Level up in high frequency range .....Increase the bias current.
  - Level down in high frequency range ...Decrease the bias current.
7. Repeat steps 2~6 above using the CrO<sub>2</sub> tape (QZZCRX) and the Metal tape (QZZCRZ) increasing the frequency range to 12.5kHz (50Hz~12.5kHz).
8. Assure that the level is within the range shown in Fig. 9.

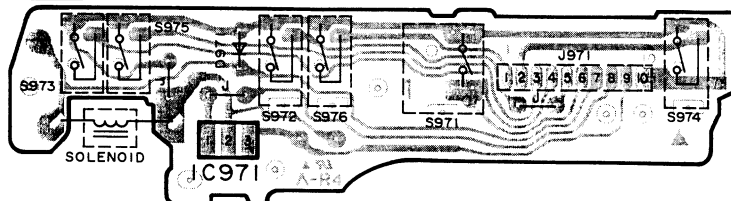
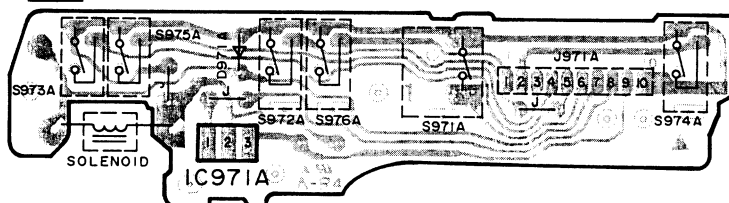
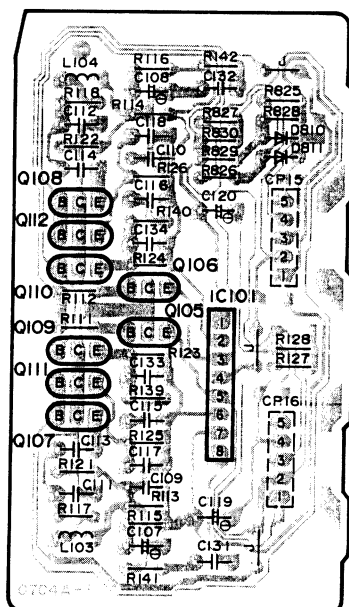
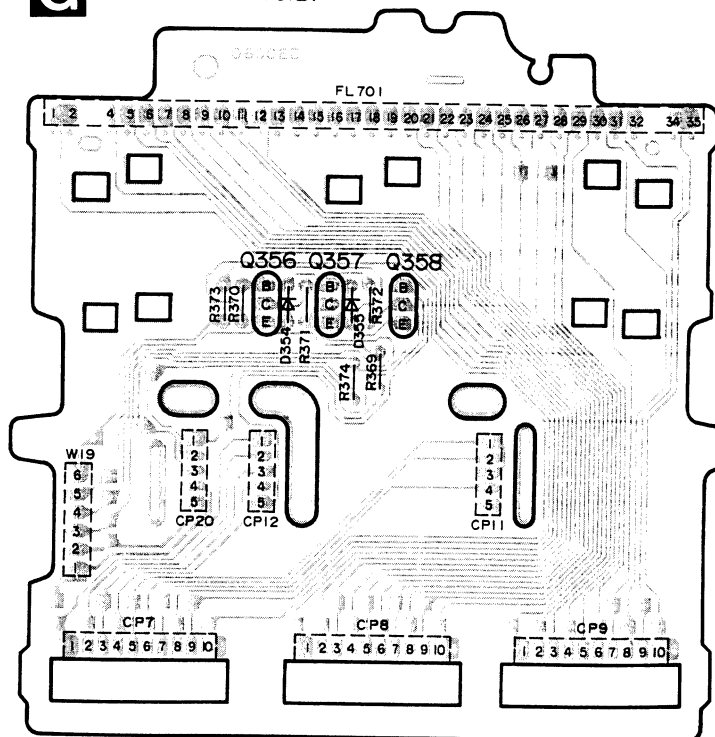
**Normal Overall frequency response chart (NR OUT)****CrO<sub>2</sub> Metal Overall frequency response chart (NR OUT)****OVERALL GAIN ADJUSTMENT (DECK 1/2)**

1. Insert the Normal blank test tape (QZZCRA) and set the unit to the Record pause mode.
2. Apply a reference input signal (1kHz, -24dB). Attenuate the output so that its level becomes 0.4V.
3. Record this input signal.
4. Playback the signal recorded in step 3 above, and assure that the output is within the standard value.
5. If it is not within the standard value, adjust Deck 1=VR7 (Deck 2=VR5) (L-CH) and Deck 1=VR8 (Deck 2=VR6) (R-CH).
6. Repeat the step 2~5 above until the output is within the standard value.

Standard value:  $0.4 \text{ V} \pm 0.5 \text{ dB}$



# **PRINTED CIRCUIT BOARDS**

**E** MECHANISM (DECK1) P.C.B.

**D** MECHANISM (DECK2) P.C.B.

**C** REC EQ AMP P.C.B.

**G** FL METER P.C.B.






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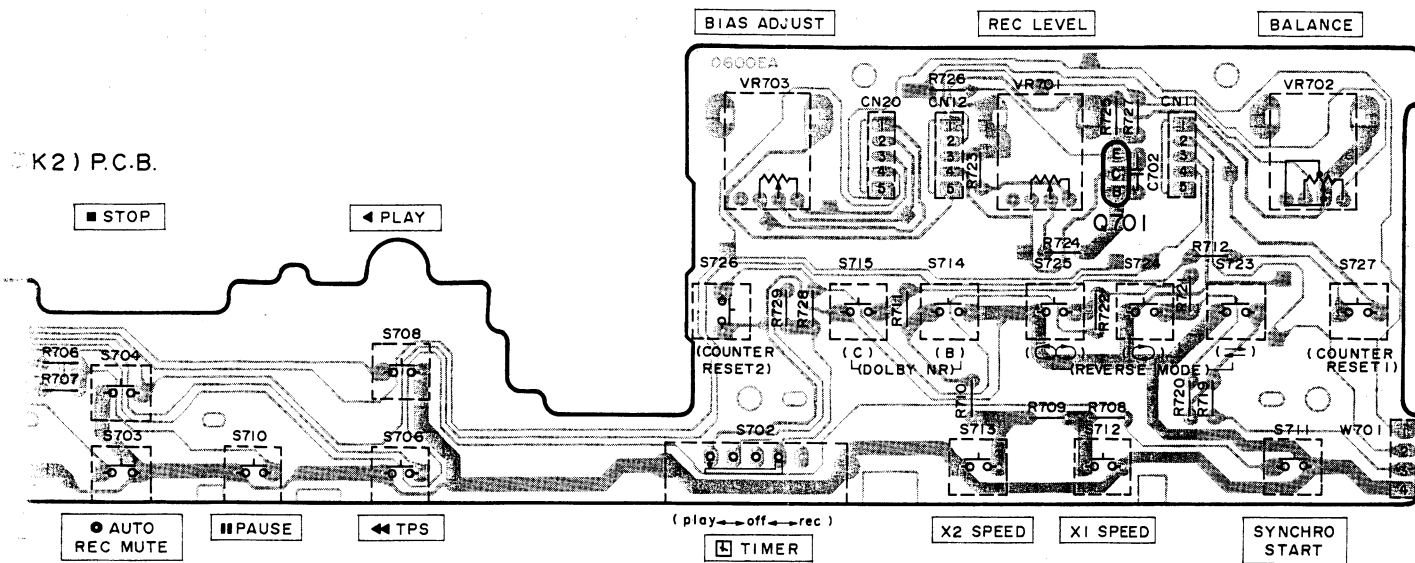
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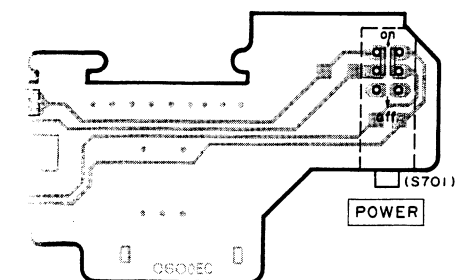
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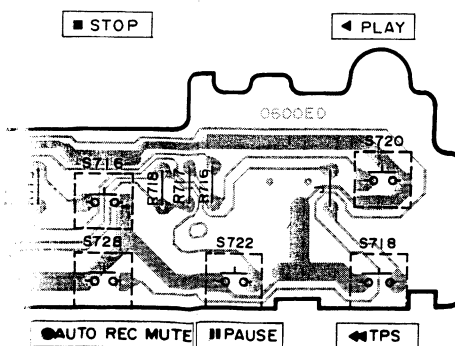
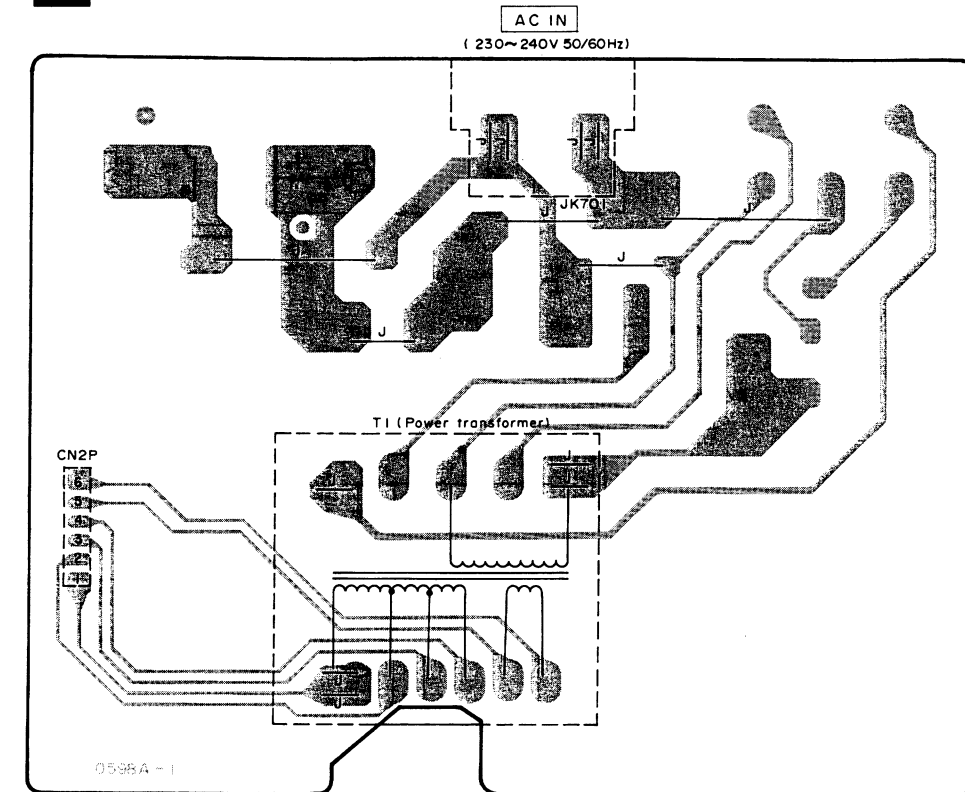
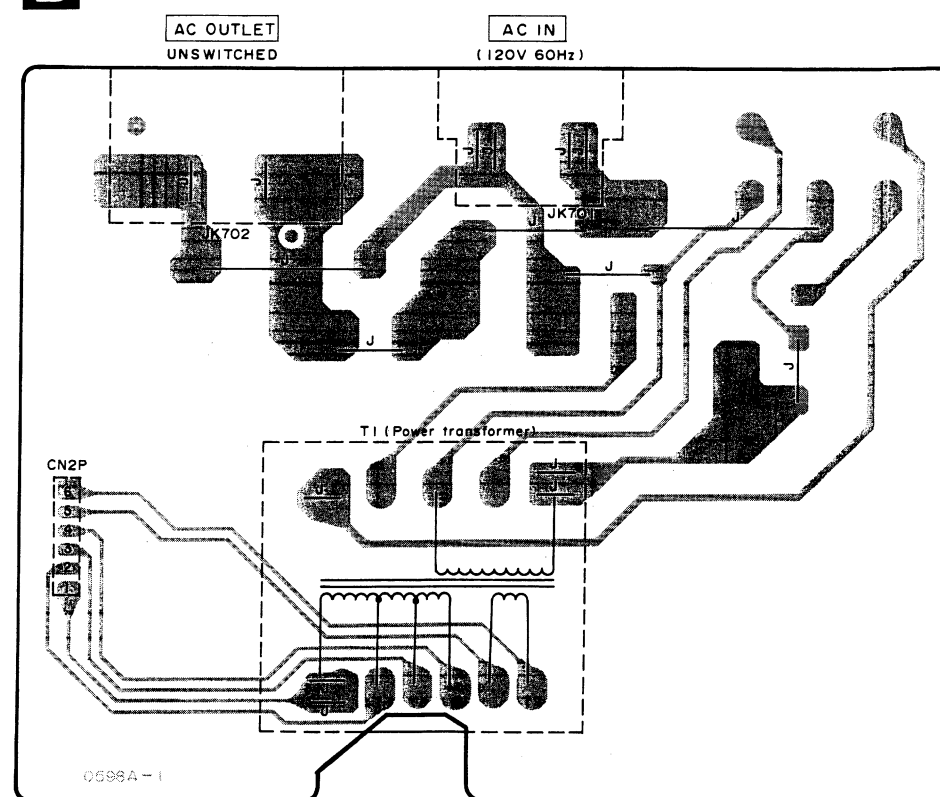
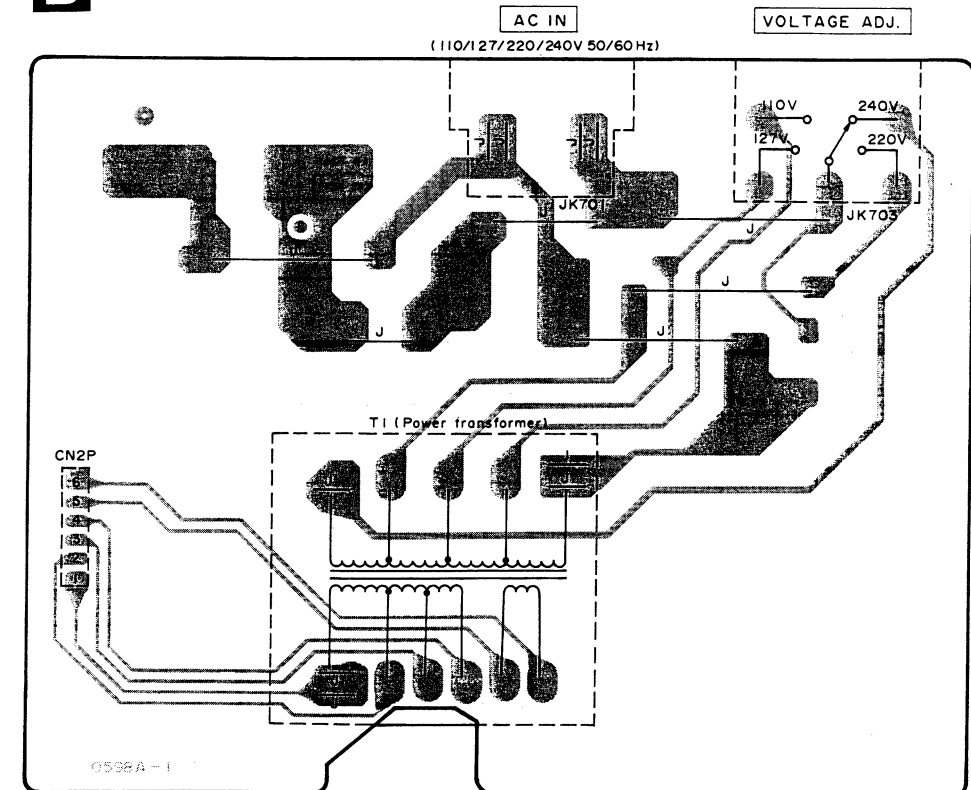
24



HEADPHONES JACK P.C.B.

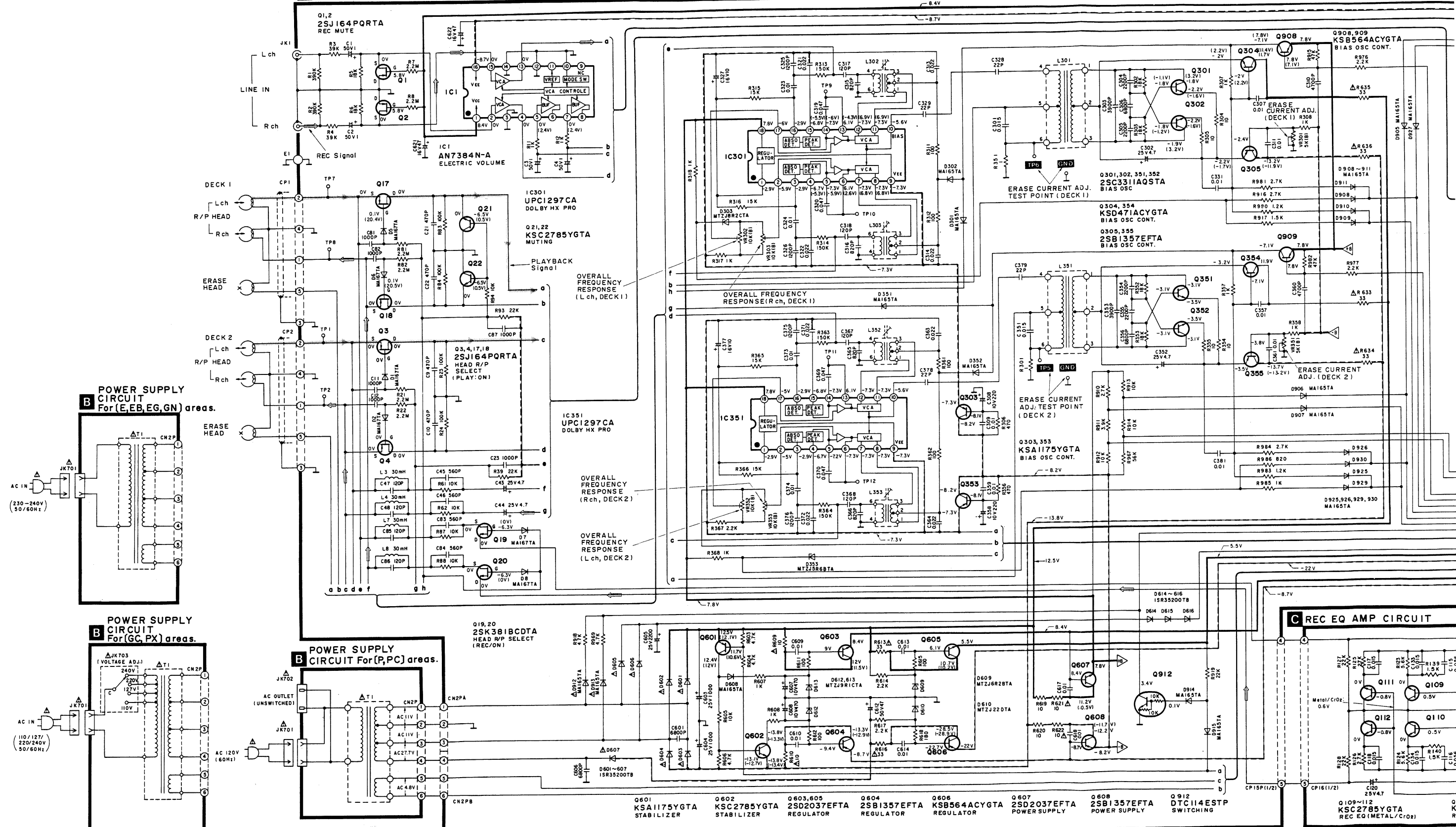


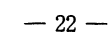
PC.B.

**B** POWER SUPPLY P.C.B. For (E,EB,EG,GN) areas.**B** POWER SUPPLY P.C.B. For (P,PC) areas.**B** POWER SUPPLY P.C.B. For (GC,PX) areas.



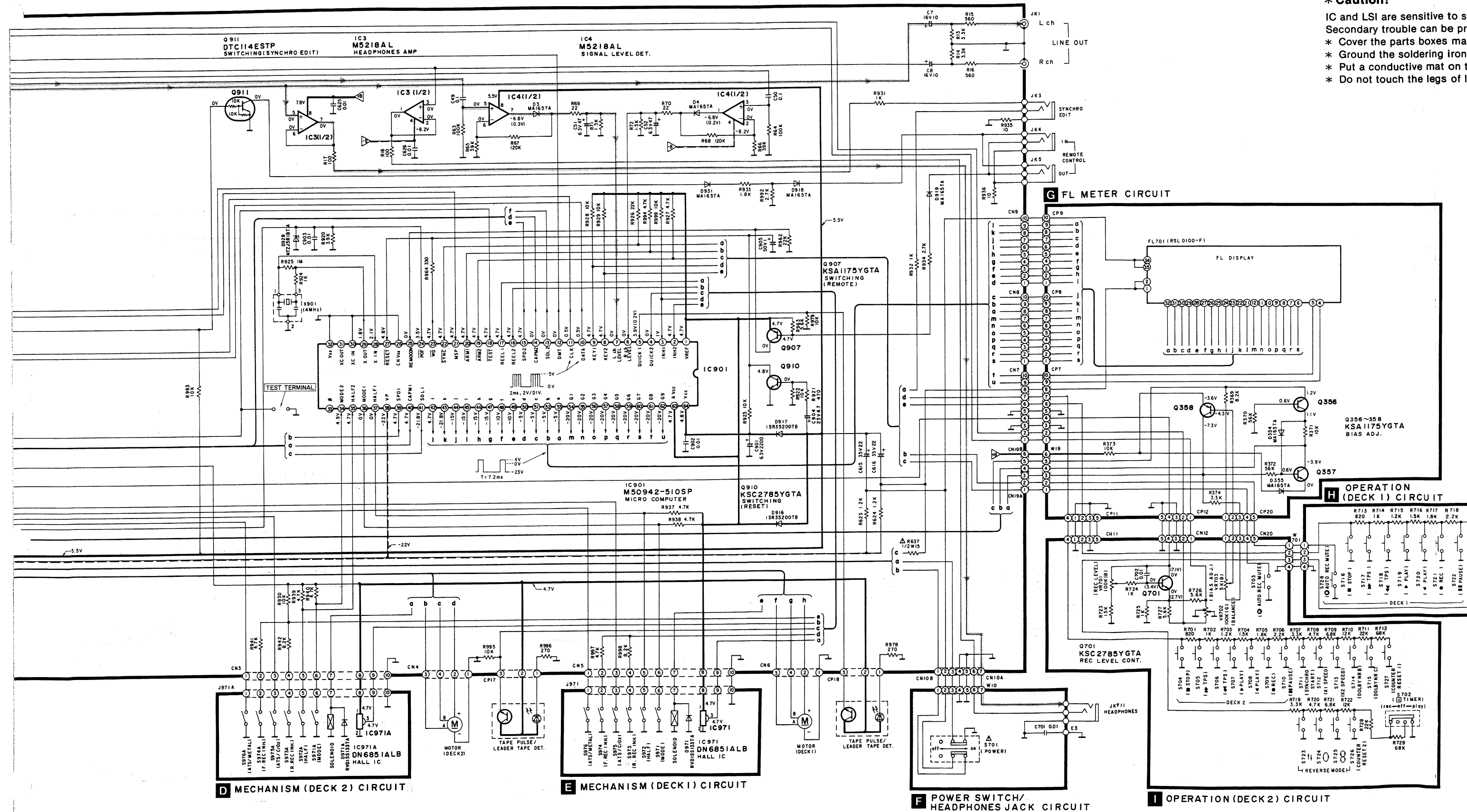
## A MAIN CIRCUIT





**\* Caution!**

- IC and LSI are sensitive to static. Secondary trouble can be produced.
- \* Cover the parts boxes immediately after removal.
- \* Ground the soldering iron.
- \* Put a conductive mat on the work surface.
- \* Do not touch the legs of ICs.



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**SCHEMATIC DIAGRAM** (Parts list on pages 32~36.)

(This schematic diagram may be modified at any time with development of new technology.)

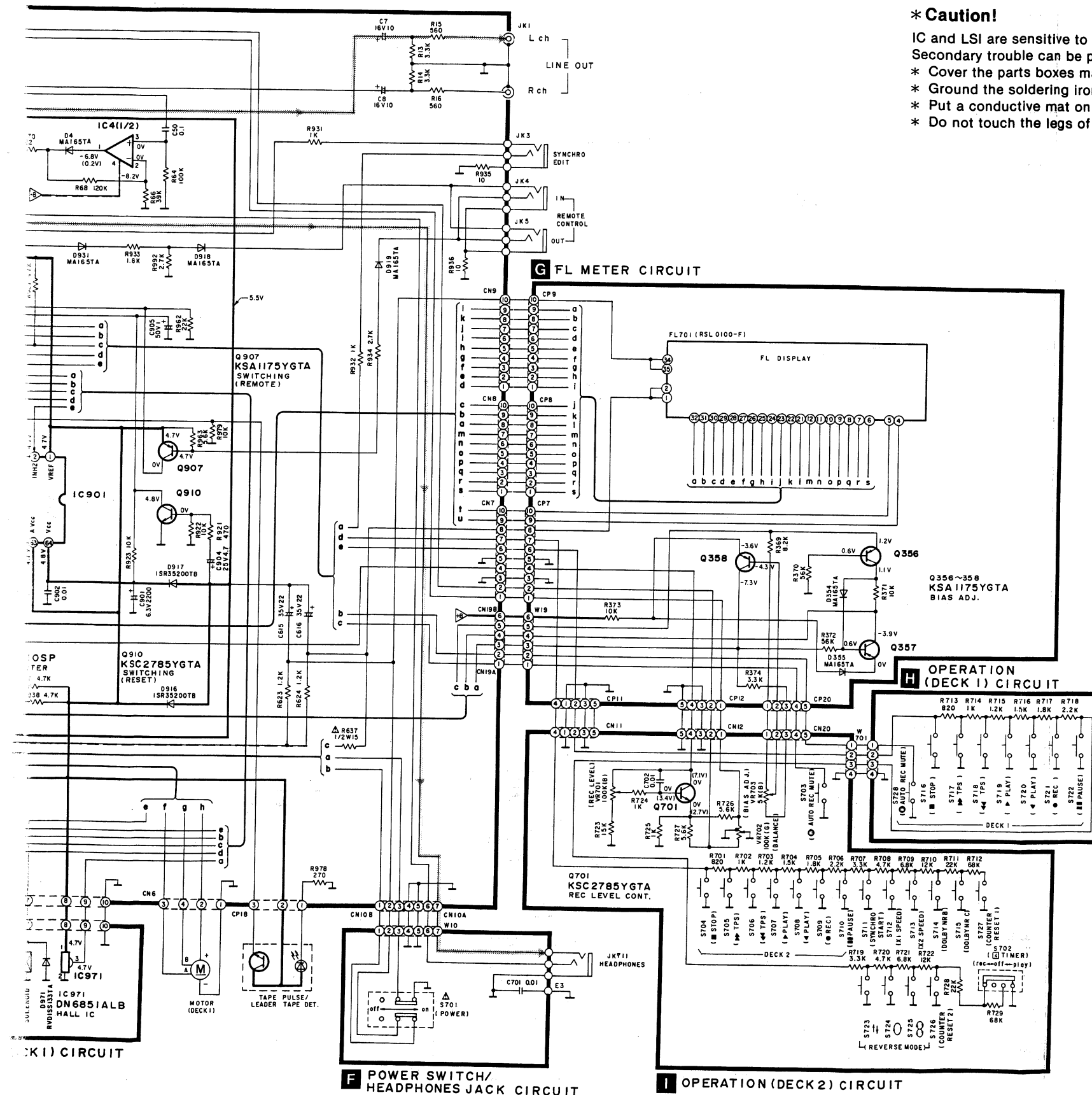
**Notes:**

- JK701: Voltage selector in "240V" position. (For [GC, PX] areas only.) (100V → 127V → 220V → 240V)
- S701: Power switch in "on" position (P, PC areas: POWER/  $\blacksquare$  OFF  $\blacksquare$  ON, Others areas: POWER/  $\blacksquare$  standby  $\odot$   $\blacksquare$  ON).
- S702: Timer switch in "OFF" position ( $\square$  TIMER).
- S703: DECK 2 Automatic-record-muting switch ( $\odot$  AUTO REC MUTE).
- S704: DECK 2 Stop switch ( $\blacksquare$  STOP).
- S705: DECK 2 Fast-forward switch (TPS  $\gg$ ).
- S706: DECK 2 Rewind switch ( $\ll$  TPS).
- S707: DECK 2 Forward-side playback switch ( $\blacktriangleright$  PLAY).
- S708: DECK 2 Reverse-side playback switch ( $\blacktriangleleft$  PLAY).
- S709: DECK 2 Record switch ( $\bullet$  REC).
- S710: DECK 2 Pause switch ( $\blacksquare$  PAUSE).
- S711: Synchro-start switch (SYNCHRO START).
- S712: Edit-recording tape-speed selector switch (X1 SPEED).
- S713: Edit-recording tape-speed selector switch (X2 SPEED).
- S714: Dolby noise-reduction selector switch (Dolby NR;  $\square$ ).
- S715: Dolby noise-reduction selector switch (Dolby NR;  $\square$ ).
- S716: DECK 1 Stop switch ( $\blacksquare$  STOP).
- S717: DECK 1 Fast-forward switch (TPS  $\gg$ ).
- S718: DECK 1 Rewind switch ( $\ll$  TPS).
- S719: DECK 1 Forward-side playback switch ( $\blacktriangleright$  PLAY).
- S720: DECK 1 Reverse-side playback switch ( $\blacktriangleleft$  PLAY).
- S721: DECK 1 Record switch ( $\bullet$  REC).
- S722: DECK 1 Pause switch ( $\blacksquare$  PAUSE).
- S723: Reverse-mode switch (REVERSE MODE;  $\rightleftarrows$ ).
- S724: Reverse-mode switch (REVERSE MODE;  $\rightleftarrows$ ).
- S725: Reverse-mode switch (REVERSE MODE;  $\rightleftarrows$ ).
- S726: DECK 2 Tape counter reset 2 switch (COUNTER RESET 2).
- S725: DECK 1 Tape counter reset 1 switch (COUNTER RESET 1).
- S728: DECK 1 Automatic-record-muting switch ( $\odot$  AUTO REC MUTE).
- S971: DECK 1 Mode switch in "off" position.
- S972: DECK 1 Cassette half detection switch in "off" position.
- S973: DECK 1 Reverse rec. inhibit switch in "off" position.
- S974: DECK 1 Forward rec. inhibit switch in "off" position.
- S975: DECK 1 ATS (CrO<sub>2</sub>) switch in "off" position.
- S976: DECK 1 ATS (Metal) switch in "off" position.
- S971A: DECK 2 Mode switch in "off" position.
- S972A: DECK 2 Cassette half detection switch in "off" position.
- S973A: DECK 2 Reverse rec. inhibit switch in "off" position.
- S974A: DECK 2 Forward rec. inhibit switch in "off" position.
- S975A: DECK 2 ATS (CrO<sub>2</sub>) switch in "off" position.
- S976A: DECK 2 ATS (Metal) switch in "off" position.
- Resistance are in ohms ( $\Omega$ ), 1/4 watt unless specified otherwise. 1K=1,000 ( $\Omega$ ), 1M=1,000k ( $\Omega$ )
- Capacity are in micro-farads ( $\mu$ F) unless specified otherwise.
- All voltage values shown in circuitry are under no signal condition and playback mode with volume control at minimum position otherwise specified. ( ).....Voltage values at record mode.
- For measurement us EVM.
- Important safety notice  
Components identified by  $\Delta$  mark have special characteristics important for safety.  
When replacing any of these components, use only manufacturer's specified parts.
- (  $\text{---} + B \text{---}$  ) indicates + B (bias).
- (  $\text{---} - B \text{---}$  ) indicates - B (bias).
- (  $\text{---} \text{---} \text{---}$  ) indicates the flow of the playback signal.
- (  $\text{---} \text{---} \text{---}$  ) indicates the flow of the record signal.
- The supply part number is described alone in the replacement parts list.

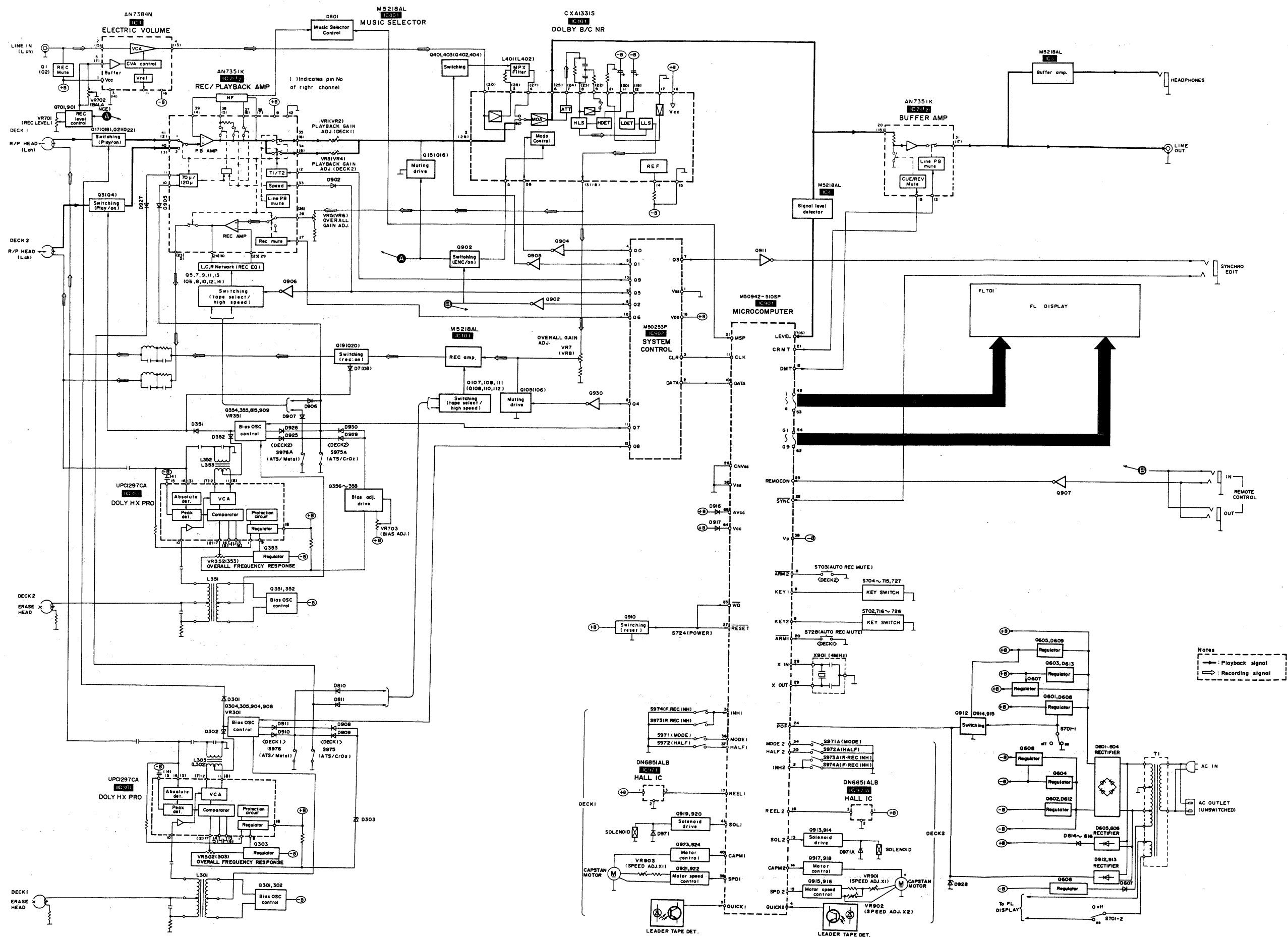
Ref. No.	Production Part No.	Supply Part No.
IC 1	AN7384N-A	AN7384
IC3, 4, 101, 801	M5218AL	M5218L

**\* Caution!**

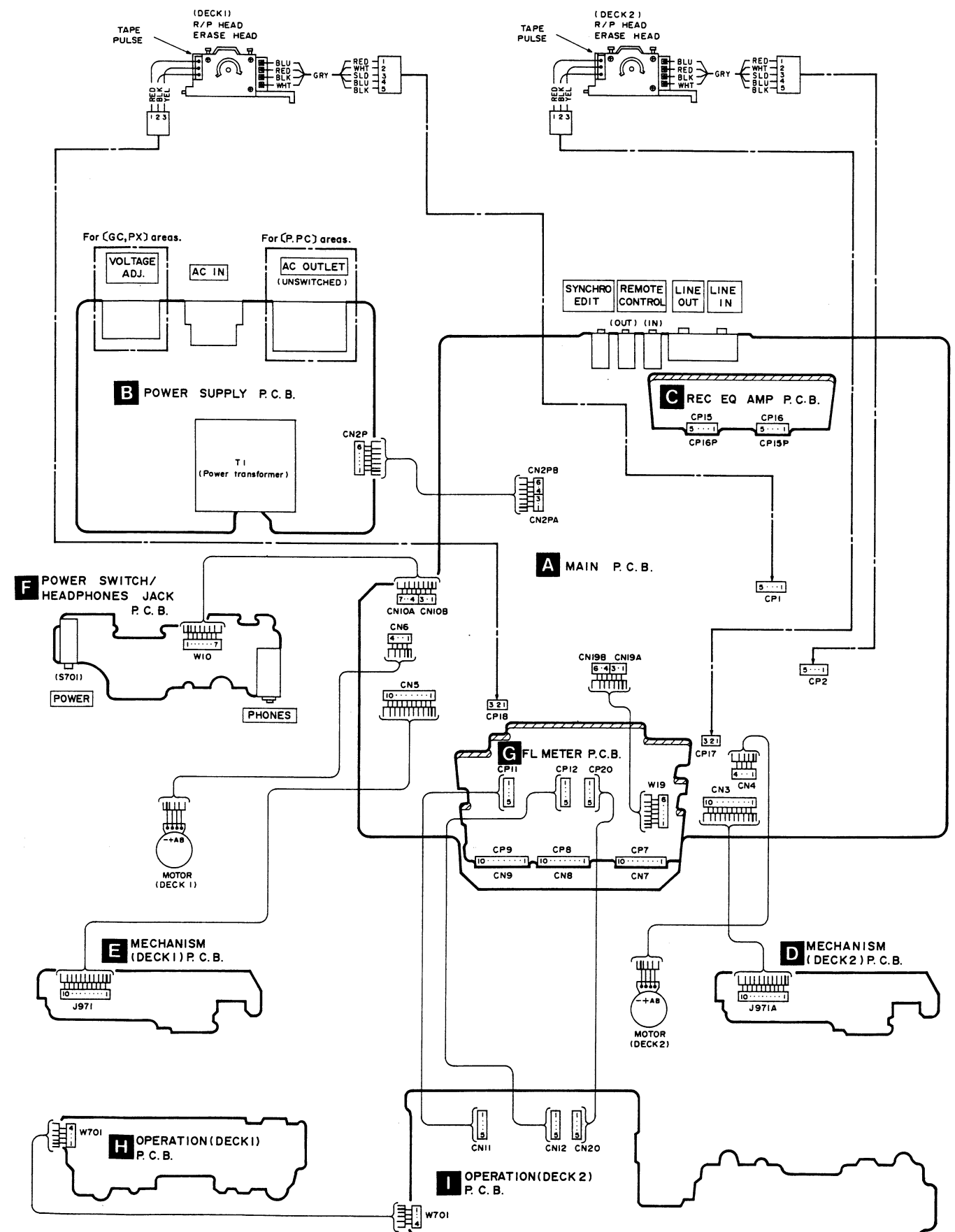
- IC and LSI are sensitive to static electricity.  
Secondary trouble can be prevented by taking care during repair.
- \* Cover the parts boxes made of plastics with aluminum foil.
  - \* Ground the soldering iron.
  - \* Put a conductive mat on the work table.
  - \* Do not touch the legs of IC or LSI with the fingers directly.



# BLOCK DIAGRAM



# WIRING CONNECTION DIAGRAM





## FUNCTIONS OF IC TERMINALS

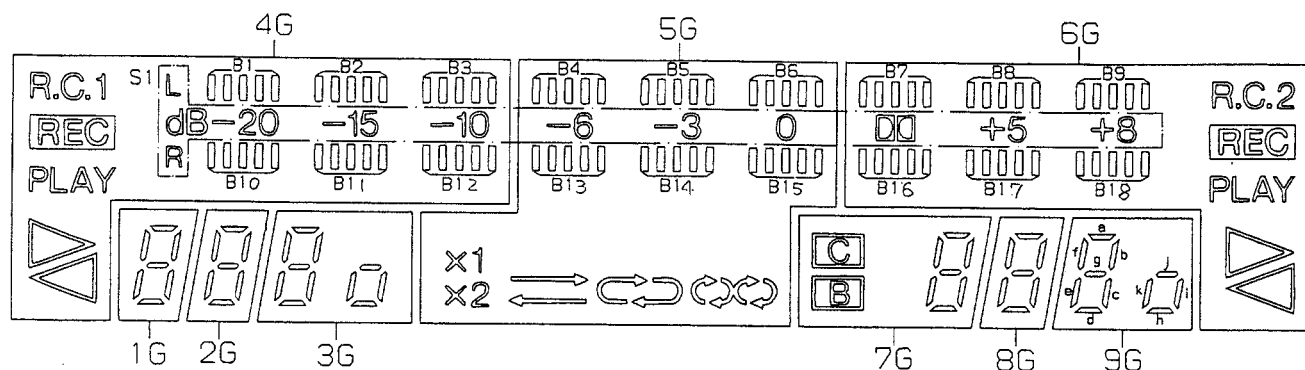
### • IC901 (M50942-510SP): MICROCOMPUTER

Pin No.	Mark	I/O	Description
1	V <sub>REF</sub>	I	Standard voltage terminal (5V)
2	INH 2	I	Deck 2 Forward/Reverse Rec. Inh. switch select terminal
3	INH 1	I	Deck 1 Forward/Reverse Rec. Inh. switch select terminal
4	QUI 2	I	Deck 2 leader tape det. for quick reverse
5	QUI 1		Deck 1 leader tape det. for quick reverse
6	R IN	I	Rch indication level
7	L IN		Lch indication level
8	KEY 2	I	Key switch scan (DECK 1: STOP, F.F., REW, F. PLAY, R. PLAY, PAUSE, C-RES 2, REC, REVERSE MODE, TIMER R/P)
9	KEY 1	I	Key switch scan (DECK 2: STOP, F.F., REW, F. PLAY, R. PLAY, REC., PAUSE, S. START, ×2, ×1, DOLBY B, C, C-RES 1)
10	DATA	O	Amp control output serial data ( $\overline{B}$ , $\overline{C}$ , $\overline{ENC}$ , $\overline{X2}$ , $\overline{T2P}$ , $\overline{REN}$ RMT 1, RMT 2, $\overline{REC}$ 1, $\overline{REC}$ 2)
11	CLK	O	Serial data clock output
12	DMT	O	Line out mute output Mute ON: "H", Mute OFF: "L"
13	SOL 2	O	Deck 2 Plunger ON/OFF control ON: "H", OFF: "L"
14	CAPM 2	O	Deck 2 motor ON/OFF control ON: "H", OFF: "L"
15	SPD 2	O	Deck 2 Motor speed X1: "H", X2: "L"
16	REEL 2	I	Deck 2 Rotation det.
17	REEL 1	I	Deck 1 Rotation det.
18	$\overline{TEST}$	I	Adjustment mode det. Normal: "H", Test: "L"
19	$\overline{ARM}$ 2	I	Deck 2 Auto Rec Mute Key Key ON: "L", Key OFF: "H"
20	$\overline{ARM}$ 1	I	Deck 1 Auto Rec Mute Key Key ON: "L", Key OFF: "H"
21	MSP	I	MS det. signal ON: "L", Signal OFF: "H"
22	$\overline{SYNC}$	I	Synchro start signal start: "L", Stop: "H"
23	$\overline{WD}$	O	Runaway det. Normal: "H" Runaway: "L"
24	$\overline{POF}$	I	Power off det. OFF: "L"
25	REMOCON	I	Remote control signal

Pin No.	Mark	I/O	Description
26	CN V <sub>SS</sub>	I	Connected to V <sub>SS</sub> .
27	$\overline{RESET}$	I	Reset input terminal Normal: "H", Reset: "L"
28	X IN	I	Clock OSC terminal (4 MHz)
29	X OUT	O	
30	XC IN	I	Not used
31	XC OUT	O	Not used
32	V <sub>SS</sub>	I	Connected to GND
33	∅	O	Not used
34	MODE 2	I	Deck 2 mechanism mode switch select terminal PLAY, F.F., REW: "L", Stop: "H"
35	HALF 2	I	Deck 2 cassette half detection switch ON: "L", OFF: "H"
36	MODE 1	I	Deck 1 mechanism mode switch select terminal PLAY, FF., REW: "L", STOP: "H"
37	HALF 1	I	Deck 1 cassette half detection switch ON: "L", OFF: "H"
38	VP	I	Standard voltage terminal
39	SPD 1	O	Deck 1 motor speed select terminal X1: "H", X2: "L"
40	CAPM 1	O	Deck 1 motor ON/OFF control terminal ON: "H", OFF: "L"
41	SOL 1	O	Deck 1 plunger ON/OFF control ON: "H", OFF: "L"
42 53	a }	O	FL meter segment ON: "H", OFF: "L"
54 62	1G }	O	FL meter grid ON: "H", OFF: "L"
63	AVcc	I	Power supply terminal (A/D)
64	Vcc	I	Power supply terminal

## INTERNAL CONNECTION OF FL

### • Grid connection diagram



### • Anode connection table

	1G	2G	3G	4G	5G	6G	7G	8G	9G
P1	a	a	a	B1	B4	B7	a	a	a
P2	b	b	b	B2	B5	B8	b	b	b
P3	c	c	c	B3	B6	B9	c	c	c
P4	d	d	d	B10	B13	B16	d	d	d
P5	e	e	e	B11	B14	B17	e	e	e
P6	f	f	f	B12	B15	B18	f	f	f
P7	g	g	g	R.C.1	x1	R.C.2	g	g	g
P8	-	-	h	REC	x2	REC	[C]	-	h
P9	-	-	i	PLAY	→	PLAY	[B]	-	i
P10	-	-	j	▷	↺	▷	-	-	j
P11	-	-	k	◁	↻	◁	-	-	k
P12	-	-	-	S1	S1	S1	-	-	-

### • Pin connection

PIN NO.	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
CONNECTION	F	F	N	P	P	P	P	P	P	P	P	P	P	P	N	N	N	N	N	N	N	N	N	1	2	3	4	5	6	7	8	9	N	F	F

#### Note

- 1) F1, F2 .....Filament  
2) NP .....No pin

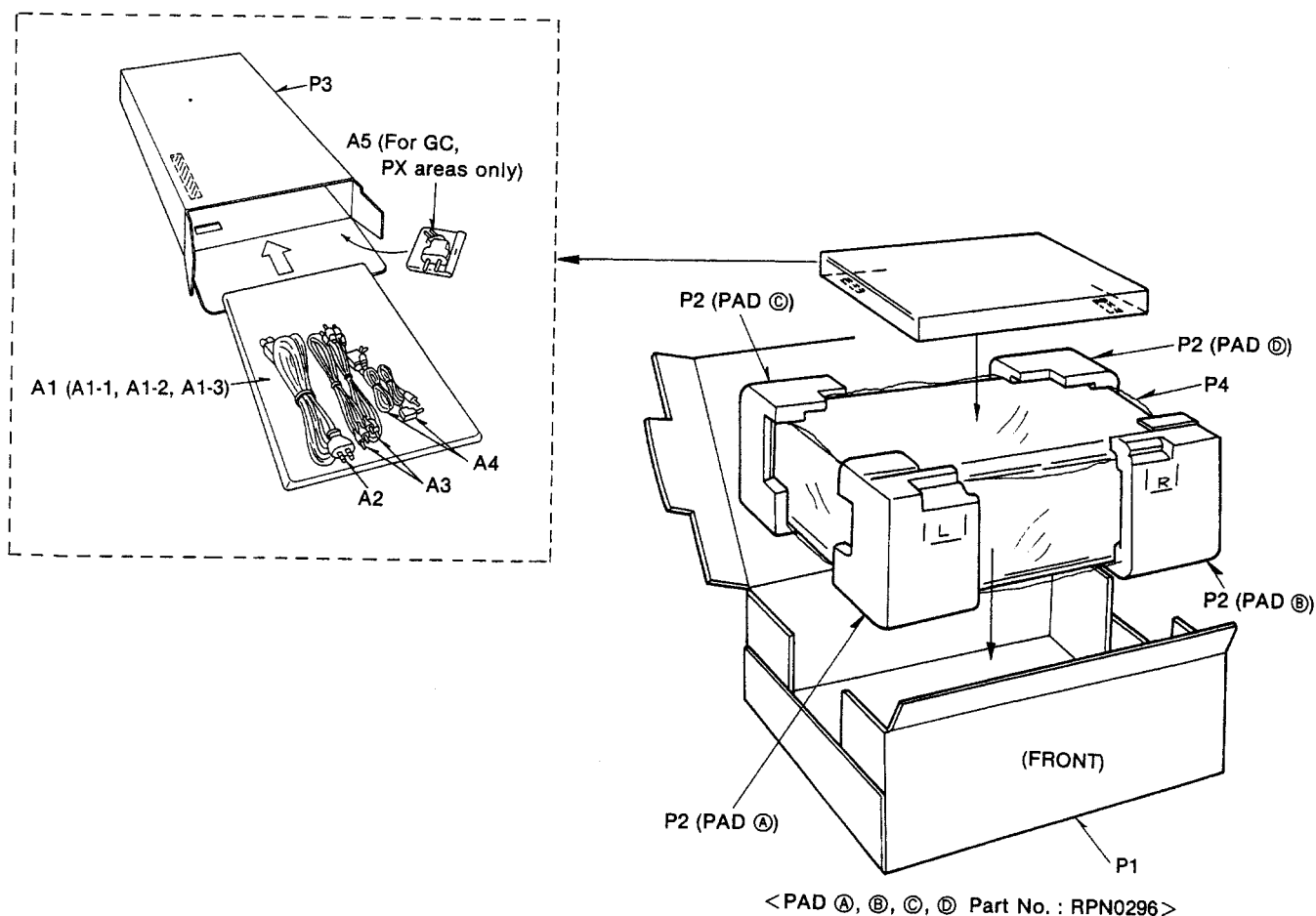
- 3) NC.....No connection  
4) 1G~9G.....Grid



## ■ TERMINAL GUIDE OF IC'S, TRANSISTORS AND DIODES

<b>AN7384N-A</b> 	<b>UPC1297CA</b> 	<b>CXA1331S</b> 	<b>M50253P</b> 	<b>AN7351K</b> 	<b>M50942-510SP</b> 
<b>M5218AL</b> 	<b>DN6851ALB</b> 	<b>KSB564ACYGTA</b> <b>KSD471ACYGTA</b> 	<b>DTA114ESTP</b> <b>DTC114ESTP</b> <b>DTA114ESTP</b> <b>KSA1175YGTA</b> <b>KSC2785YGTA</b> 		<b>2SC3311AQSTA</b> <b>2SD1450RSTA</b> 
<b>2SB1357EFTA</b> <b>2SD2037EFTA</b> 	<b>2SK381BCDTA</b> 	<b>2SJ164PQRTA</b> 			

## ■ PACKING



# REPLACEMENT PARTS LIST

Notes : \* Important safety notice:

Components identified by  $\Delta$  mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.

\* The parenthesized indications in the Remarks columns specify the areas. (Refer to the cover page for area.)  
Parts without these indications can be used for all areas.

Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
		INTEGRATED CIRCUIT(S)		Q701	KSC2785YGTA	TRANSISTOR	
				Q801	KSC2785YGTA	TRANSISTOR	
				Q901	KSC2785YGTA	TRANSISTOR	
IC1	AN7384	ELECTRIC VOLUME		Q902	DTA114ESTP	TRANSISTOR	
IC2	AN7351K	PLAYBACK/REC AMP		Q904, 905	DTA144ESTP	TRANSISTOR	
IC3	M5218L	HEADPHONES AMP		Q906	DTA114ESTP	TRANSISTOR	
IC4	M5218L	SIGNAL LEVEL DETECTOR		Q907	KSA1175YGTA	TRANSISTOR	
IC101	M5218L	REC AMP		Q908, 909	KSB564ACYGTA	TRANSISTOR	
IC301	UPC1297CA	DOLBY HX PRO(DECK1)		Q910	KSC2785YGTA	TRANSISTOR	
IC351	UPC1297CA	DOLBY HX PRO(DECK2)		Q911, 912	DTC114ESTP	TRANSISTOR	
IC401	CXA1331S	DOLBY NR(B/C)		Q913	KSB564ACYGTA	TRANSISTOR	
IC801	M5218L	TPS AMP		Q914	DTC114ESTP	TRANSISTOR	
IC901	M50942-510SP	MICROCOMPUTER		Q915	KSA1175YGTA	TRANSISTOR	
IC902	M50253P	SYSTEM CONTROL		Q916	DTC114ESTP	TRANSISTOR	
IC971	DN6851ALB	HALL (DECK1)		Q917	KSB564ACYGTA	TRANSISTOR	
IC971A	DN6851ALB	HALL (DECK2)		Q918	DTC114ESTP	TRANSISTOR	
		TRANSISTOR(S)		Q919	KSB564ACYGTA	TRANSISTOR	
				Q920	DTC114ESTP	TRANSISTOR	
				Q921	KSA1175YGTA	TRANSISTOR	
Q1-4	2SJ164PQRTA	TRANSISTOR		Q922	DTC114ESTP	TRANSISTOR	
Q5-8	KSA1175YGTA	TRANSISTOR		Q923	KSB564ACYGTA	TRANSISTOR	
Q9-14	KSC2785YGTA	TRANSISTOR		Q924	DTC114ESTP	TRANSISTOR	
Q15, 16	2SD1450RSTA	TRANSISTOR		Q930	DTA144ESTP	TRANSISTOR	
Q17, 18	2SJ164PQRTA	TRANSISTOR					
Q19, 20	2SK381BCDTA	TRANSISTOR				DIODE(S)	
Q21, 22	KSC2785YGTA	TRANSISTOR					
Q105, 106	2SD1450RSTA	TRANSISTOR		D1, 2	MA167	DIODE	
Q107, 108	KSA1175YGTA	TRANSISTOR		D3, 4	MA165	DIODE	
Q109-112	KSC2785YGTA	TRANSISTOR		D5-8	MA167	DIODE	
Q301, 302	2SC3311A-Q	TRANSISTOR		D301, 302	MA165	DIODE	
Q303	KSA1175YGTA	TRANSISTOR		D303	MTZJ8R2CTA	DIODE	
Q304	KSD471ACYGTA	TRANSISTOR		D351, 352	MA165	DIODE	
Q305	2SB1357EFTA	TRANSISTOR		D353	MTZJ5R6BTA	DIODE	
Q351, 352	2SC3311A-Q	TRANSISTOR		D354, 355	MA165	DIODE	
Q353	KSA1175YGTA	TRANSISTOR		D601-607	1SR35200TB	DIODE	$\Delta$
Q354	KSD471ACYGTA	TRANSISTOR		D608	MA165	DIODE	
Q355	2SB1357EFTA	TRANSISTOR		D609	MTZJ6R2BTA	DIODE	
Q356-358	KSA1175YGTA	TRANSISTOR		D610	MTZJ22DTA	DIODE	
Q401-404	KSC2785YGTA	TRANSISTOR		D612, 613	MTZJ9R1CTA	DIODE	
Q601	KSA1175YGTA	TRANSISTOR		D614-616	1SR35200TB	DIODE	
Q602	KSC2785YGTA	TRANSISTOR		D801	MA165	DIODE	
Q603	2SD2037EFTA	TRANSISTOR		D810, 811	MA165	DIODE	
Q604	2SB1357EFTA	TRANSISTOR		D901-911	MA165	DIODE	
Q605	2SD2037EFTA	TRANSISTOR		D912, 913	MA165	DIODE	$\Delta$
Q606	KSB564ACYGTA	TRANSISTOR		D914, 915	MA165	DIODE	
Q607	2SD2037EFTA	TRANSISTOR		D916, 917	1SR35200TB	DIODE	
Q608	2SB1357EFTA	TRANSISTOR		D918, 919	MA165	DIODE	

Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
D922-927	MA165	DIODE		S705	EVQ21405R	F. F. (DECK2)	
D928	MTZJ5R1BTA	DIODE		S706	EVQ21405R	REW. (DECK2)	
D929-931	MA165	DIODE		S707	EVQ21405R	F. PLAYBACK (DECK2)	
D971	RVD1SS133TA	DIODE (DECK1)		S708	EVQ21405R	R. PLAYBACK (DECK2)	
D971A	RVD1SS133TA	DIODE (DECK2)		S709	EVQ21405R	REC (DECK2)	
				S710	EVQ21405R	PAUSE (DECK2)	
		VARIABLE RESISTOR(S)		S711	EVQ21405R	SYNCHRO START	
				S712	EVQ21405R	TAPE EDIT SPEED(X1)	
VR1-4	EVNDXAA00B24	PLAYBACK GAIN ADJ.		S713	EVQ21405R	TAPE EDIT SPEED(X2)	
VR5-8	EVNDXAA00B14	OVERALL GAIN ADJ.		S714	EVQ21405R	DOLBY NR B	
VR301	EVNDXAA00B53	ERASE CURRENT ADJ. (DECK1)		S715	EVQ21405R	DOLBY NR C	
VR302, 303	EVNDXAA00B14	OVERALL FREQ ADJ. (DECK1)		S716	EVQ21405R	STOP (DECK1)	
VR351	EVNDXAA00B53	ERASE CURRENT ADJ. (DECK2)		S717	EVQ21405R	F. F. (DECK1)	
VR352, 353	EVNDXAA00B14	OVERALL FREQ ADJ. (DECK2)		S718	EVQ21405R	REW. (DECK1)	
VR701	EVJ02F02B15	REC. LEVEL CONTROL		S719	EVQ21405R	F. PLAYBACK (DECK1)	
VR702	EVJ02SF02G15	BALANCE		S720	EVQ21405R	R. PLAYBACK (DECK1)	
VR703	EVJ02KF02B53	BIAS CONTROL ADJ.		S721	EVQ21405R	REC (DECK1)	
VR901-903	EVNDXAA00B53	TAPE SPEED ADJ.		S722	EVQ21405R	PAUSE (DECK1)	
				S723-725	EVQ21405R	REVERSE MODE	
		COIL (S)		S726	EVQ21405R	COUNTER RESET (DECK2)	
				S727	EVQ21405R	COUNTER RESET (DECK1)	
L1, 2	SLQX272-1YT	COIL		S728	EVQ21405R	AUTO REC MUTE (DECK1)	
L3, 4	SLQX303-1KT	COIL		S971	RSH1A892B-U	MODE (DECK1)	
L5, 6	RLQB103JT-Y	COIL		S972	RSH1A90YB-U	HALF (DECK1)	
L7, 8	SLQX303-1KT	COIL		S973	RSH1A90YB-U	R. REC INH. (DECK1)	
L103, 104	SLQX272-1YT	COIL		S974	RSH1A90YB-U	F. REC INH. (DECK1)	
L301	SL09B4-K	COIL		S975	RSH1A90YB-U	ATS (DECK1)	
L302, 303	SL09B1-Z	COIL		S976	RSH1A90YB-U	ATS (DECK1)	
L351	SL09B4-K	COIL		S971A	RSH1A892B-U	MODE (DECK2)	
L352, 353	SL09B1-Z	COIL		S972A	RSH1A90YB-U	HALF (DECK2)	
L401, 402	QLM9Z10K	COIL		S973A	RSH1A90YB-U	R. REC INH. (DECK2)	
				S974A	RSH1A90YB-U	F. REC INH. (DECK2)	
		TRANSFORMER (S)		S975A	RSH1A90YB-U	ATS (DECK2)	
				S976A	RSH1A90YB-U	ATS (DECK2)	
T1	RTP1K4C008-V	POWER TRANSFORMER	(P, PC) $\Delta$			CONNECTOR(S) AND SOCKET(S)	
T1	RTP1K4E014-V	POWER TRANSFORMER	(E, EB, EG, GN) $\Delta$				
T1	RTP1K4E015-V	POWER TRANSFORMER	(GC, PX) $\Delta$				
				CN2P	RJS6T52A	CONNECTOR (6P)	
		OSCILLATOR(S)		CN2PA	RJS1A1703	CONNECTOR (3P)	
				CN2PB	RJS1A1703	CONNECTOR (3P)	
X901	EF0GC4004A4	CERAMIC FILTER		CN3	SJSD1005	CONNECTOR (10P)	
				CN4	RJS1A1704	CONNECTOR (4P)	
		DISPLAY TUBE		CN5	SJSD1005	CONNECTOR (10P)	
				CN6	RJS1A1704	CONNECTOR (4P)	
FL701	RSL0100-F	DISPLAY TUBE		CN7-9	RJU003K010M1	SOCKET (10P)	
				CN10A	RJS1A1704	CONNECTOR (4P)	
		SWITCH(ES)		CN10B	RJS1A1703	CONNECTOR (3P)	
				CN11, 12	SJS50581BB	SOCKET (5P)	
S701	SSH1230	POWER	$\Delta$	CN19A	RJS1A1703	CONNECTOR (3P)	
S702	RSS3A18YA-H	TIMER		CN19B	RJS1A1703	CONNECTOR (3P)	
S703	EVQ21405R	AUTO REC MUTE (DECK2)		CN20	SJS50581BB	SOCKET (5P)	
S704	EVQ21405R	STOP (DECK2)		CP1, 2	RJP5G18ZA	CONNECTOR	

Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
CP7-9	RJT003K010M1	CONNECTOR (10P)		JK711	SJJ146B	HEADPHONES JACK	
CP11, 12	SJT305488B1	CONNECTOR (5P)					
CP15	RJT060R05	CONNECTOR (5P)				GND PART(S)	
CP15P	RJU060G05T	SOCKET (5P)					
CP16	RJT060R05	CONNECTOR (5P)		E1	SNE1004-1	GND PLATE	
CP16P	RJU060G05T	SOCKET (5P)		E3	SUSD165	GND SPRING	
CP17, 18	SJTD313	CONNECTOR (3P)					
CP20	SJT305488B1	CONNECTOR (5P)				FLAT CABLE(S)	
		JACK(S)		W2P	RWJ1806110QQ	FLAT CABLE(6P)	
				W3	RWJ0210220QQ	FLAT CABLE(10P)	
JK1	SJF3069N	TERMINAL BOARD		W4	RWJ1804160QQ	FLAT CABLE(6P)	
JK3	RJJ33T01	M3 JACK (BLACK)		W5	RWJ0210220QQ	FLAT CABLE(10P)	
JK4, 5	RJJ33TR01	M3 JACK (RED)		W6	RWJ1804160QQ	FLAT CABLE(4P)	
JK701	SJSD16	AC INLET	(P, PC, GN) △	W10	RWJ1807300KQ	FLAT CABLE(7P)	
JK701	SJS9236	AC INLET	(E, EB, EG, GC, PX) △	W19	RWJ1806130KQ	FLAT CABLE(6P)	
JK702	SJS9331B	AC OUTLET	(P, PC) △	W701	RWJ1804040EE	FLAT CABLE(4P)	
JK703	SSR187-1	VOLTAGE SELECTOR	(GC, PX) △				

## RESISTORS & CAPACITORS

Notes : \* Capacity value are in microfarads (uF) unless specified otherwise, P=Pico-farads (pF) F=Farads (F)  
 \* Resistance values are in ohms, unless specified otherwise, 1K=1,000 (OHM) , 1M=1,000k (OHM)

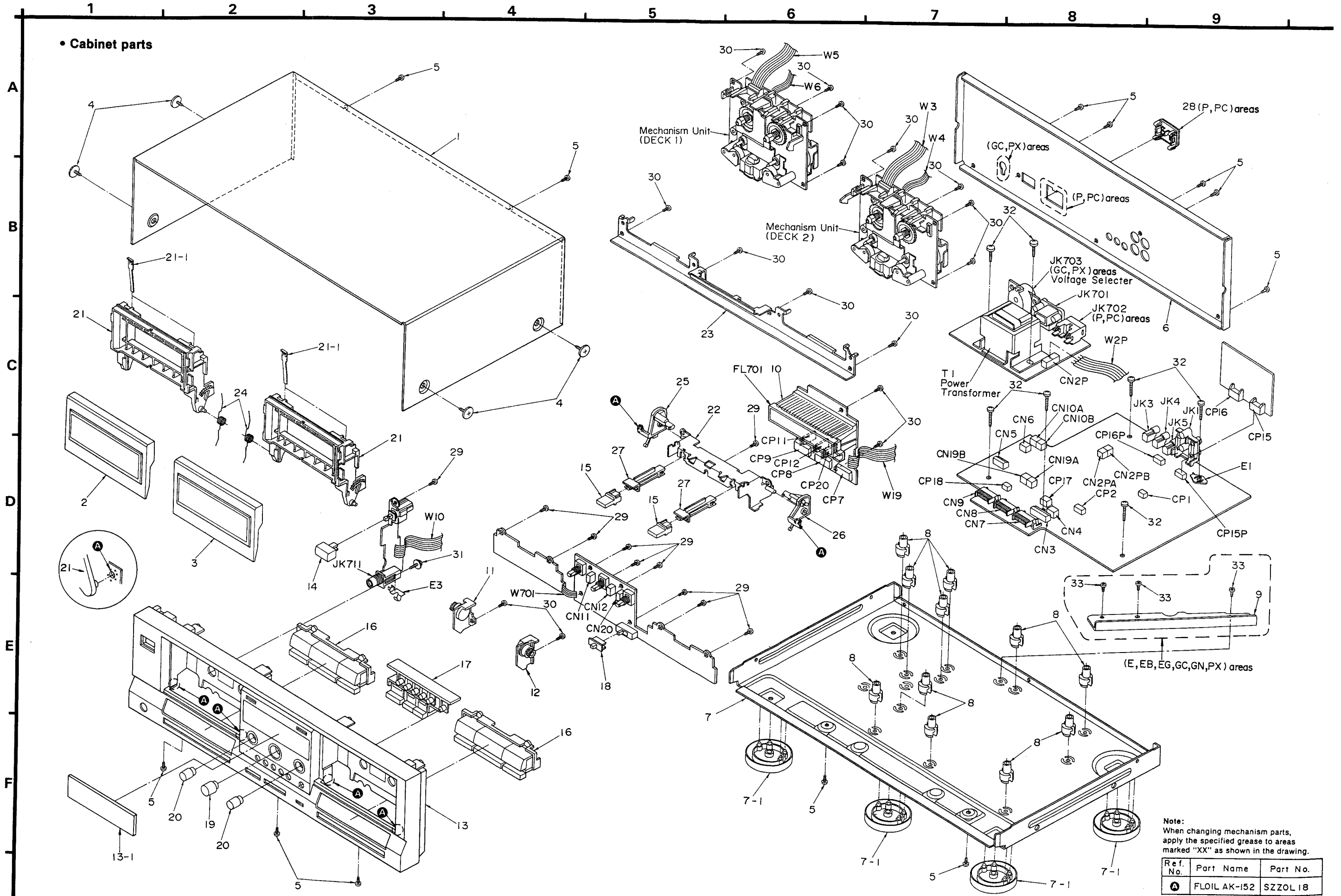
Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks
		RESISTORS	R51, 52	ERDS2TJ122	1/4W 1.2K	R301	ERDS2TJ1R0	1/4W 1.0
			R53, 54	ERDS2TJ330	1/4W 33	R302, 303	ERDS2TJ183T	1/4W 18K
			R55, 56	ERDS2TJ562	1/4W 5.6K	R304, 305	ERDS2TJ100	1/4W 10
R1, 2	ERDS2TJ394	1/4W 390K	R57, 58	ERDS2TJ152	1/4W 1.5K	R306	ERDS2TJ471	1/4W 470
R3, 4	ERDS2TJ393	1/4W 39K	R59, 60	ERDS2TJ272T	1/4W 2.7K	R307, 308	ERDS2TJ102	1/4W 1K
R5, 6	ERDS2TJ183T	1/4W 18K	R61, 62	ERDS2TJ103	1/4W 10K	R311, 312	ERDS2TJ101	1/4W 100
R7, 8	ERDS2TJ225	1/4W 2.2M	R63, 64	ERDS2TJ104	1/4W 100K	R313, 314	ERDS2TJ154	1/4W 150K
R9, 10	ERDS2TJ332	1/4W 3.3K	R65, 66	ERDS2TJ393	1/4W 39K	R315, 316	ERDS2TJ153	1/4W 15K
R11, 12	ERDS2TJ102	1/4W 1K	R67, 68	ERDS2TJ124T	1/4W 120K	R317, 318	ERDS2TJ102	1/4W 1K
R13, 14	ERDS2TJ332	1/4W 3.3K	R69, 70	ERDS2TJ220T	1/4W 22	R351	ERDS2TJ1R0	1/4W 1.0
R15, 16	ERDS2TJ561	1/4W 560	R71, 72	ERDS2TJ152	1/4W 1.5K	R352, 353	ERDS2TJ183T	1/4W 18K
R17, 18	ERDS2TJ101	1/4W 100	R81, 82	ERDS2TJ225	1/4W 2.2M	R354, 355	ERDS2TJ100	1/4W 10
R19, 20	ERDS2TJ103	1/4W 10K	R83, 84	ERDS2TJ104	1/4W 100K	R356	ERDS2TJ471	1/4W 470
R21, 22	ERDS2TJ225	1/4W 2.2M	R85, 86	ERDS2TJ183T	1/4W 18K	R357, 358	ERDS2TJ102	1/4W 1K
R23, 24	ERDS2TJ104	1/4W 100K	R87-90	ERDS2TJ103	1/4W 10K	R361, 362	ERDS2TJ101	1/4W 100
R25-28	ERDS2TJ101	1/4W 100	R91, 92	ERDS2TJ332	1/4W 3.3K	R363, 364	ERDS2TJ154	1/4W 150K
R29, 30	ERDS2EJ121	1/4W 120	R93	ERDS2TJ223	1/4W 22K	R365, 366	ERDS2TJ153	1/4W 15K
R31, 32	ERDS2TJ273	1/4W 27K	R94	ERDS2TJ103	1/4W 10K	R367	ERDS2TJ222	1/4W 2.2K
R33, 34	ERDS2TJ183T	1/4W 18K	R111, 112	ERDS2TJ103	1/4W 10K	R368	ERDS2TJ102	1/4W 1K
R35, 36	ERDS2TJ394	1/4W 390K	R113, 114	ERDS2TJ223	1/4W 22K	R369	ERDS2TJ822	1/4W 8.2K
R37, 38	ERDS2TJ272T	1/4W 2.7K	R115, 116	ERDS2TJ472	1/4W 4.7K	R370	ERDS2TJ563	1/4W 56K
R39	ERDS2TJ223	1/4W 22K	R117, 118	ERDS2TJ330	1/4W 33	R371	ERDS2TJ103	1/4W 10K
R40	ERDS2TJ392T	1/4W 3.9K	R121, 122	ERDS2TJ122	1/4W 1.2K	R372	ERDS2TJ563	1/4W 56K
R41, 42	ERDS2TJ223	1/4W 22K	R123, 124	ERDS2TJ562	1/4W 5.6K	R373	ERDS2TJ103	1/4W 10K
R43, 44	ERDS2TJ472	1/4W 4.7K	R125, 126	ERDS2TJ272T	1/4W 2.7K	R374	ERDS2TJ332	1/4W 3.3K
R45, 46	ERDS2TJ562	1/4W 5.6K	R127, 128	ERDS2TJ223	1/4W 22K	R401-404	ERDS2TJ684	1/4W 680K
R47, 48	ERDS2TJ103	1/4W 10K	R139, 140	ERDS2TJ152	1/4W 1.5K	R405, 406	ERDS2TJ242	1/4W 2.4K
R49, 50	ERDS2TJ332	1/4W 3.3K	R141, 142	ERDS2TJ562	1/4W 5.6K	R407, 408	ERDS2TJ562	1/4W 5.6K

Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks
R409, 410	ERDS2TJ243T	1/4W 24K	R802	ERDS2TJ101	1/4W 100	R952	ERDS2TJ223	1/4W 22K
R411, 412	ERDS2TJ561	1/4W 560	R803	ERDS2TJ823T	1/4W 82K	R953	ERDS2TJ821	1/4W 820
R413, 414	ERDS2TJ682T	1/4W 6.8K	R804	ERDS2TJ393	1/4W 39K	R954	ERDS2TJ103	1/4W 10K
R415, 416	ERDS2TJ562	1/4W 5.6K	R805	ERDS2TJ562	1/4W 5.6K	R955	ERDS2TJ332	1/4W 3.3K
R417	ERDS2TJ151	1/4W 150	R806	ERDS2TJ102	1/4W 1K	R956	ERDS2TJ103	1/4W 10K
R418	ERDS2TJ273	1/4W 27K	R807	ERDS2TJ473	1/4W 47K	R957	ERDS2TJ392T	1/4W 3.9K
R603, 604	ERDS2TJ472	1/4W 4.7K	R808	ERDS2TJ183T	1/4W 18K	R958	ERDS2TJ184T	1/4W 180K
R605	ERDS2TJ103	1/4W 10K	R809	ERDS2TJ122	1/4W 1.2K	R959	ERDS2TJ103	1/4W 10K
R606	ERDS2TJ472	1/4W 4.7K	R825, 826	ERDS2TJ103	1/4W 10K	R960	ERDS2TJ223	1/4W 22K
R607, 608	ERDS2TJ102	1/4W 1K	R827	ERDS2TJ563	1/4W 56K	R962	ERDS2TJ223	1/4W 22K
R609, 610	ERD2FCVG100T	1/4W 10 $\Delta$	R828	ERDS2TJ222	1/4W 2.2K	R963	ERDS2TJ562	1/4W 5.6K
R611, 612	ERDS2TJ101	1/4W 100	R829	ERDS2TJ392T	1/4W 3.9K	R964	ERDS2TJ331	1/4W 330
R613	ERD2FCVG330T	1/4W 33 $\Delta$	R830	ERDS2TJ103	1/4W 10K	R965	ERDS2TJ153	1/4W 15K
R614	ERDS2TJ222	1/4W 2.2K	R901	ERDS2TJ472	1/4W 4.7K	R966	ERDS2TJ821	1/4W 820
R615	ERDS2TJ101	1/4W 100	R902	ERDS2TJ822	1/4W 8.2K	R967	ERDS2TJ563	1/4W 56K
R616	ERD2FCVG330T	1/4W 33 $\Delta$	R903	ERDS2TJ472	1/4W 4.7K	R968-970	ERDS2TJ472	1/4W 4.7K
R617	ERDS2TJ222	1/4W 2.2K	R904	ERDS2TJ122	1/4W 1.2K	R976, 977	ERDS2TJ222	1/4W 2.2K
R618	ERDS2TJ181T	1/4W 180	R905	ERDS2TJ103	1/4W 10K	R978	ERDS2TJ271	1/4W 270
R619, 620	ERDS2TJ100	1/4W 10	R906	ERDS2TJ123	1/4W 12K	R979	ERDS2TJ103	1/4W 10K
R621, 622	ERD2FCVG100T	1/4W 10 $\Delta$	R907, 908	ERDS2TJ472	1/4W 4.7K	R980	ERDS2TJ122	1/4W 1.2K
R623, 624	ERDS2TJ122	1/4W 1.2K	R909	ERDS2TJ332	1/4W 3.3K	R981	ERDS2TJ272T	1/4W 2.7K
R625, 626	ERDS2EJ820	1/4W 82	R910	ERDS2TJ272T	1/4W 2.7K	R982	ERDS2TJ473	1/4W 47K
R633-636	ERD2FCVG330T	1/4W 33 $\Delta$	R911	ERDS2TJ392T	1/4W 3.9K	R983	ERDS2TJ122	1/4W 1.2K
R637	ERDS1FVJ150T	1/2W 15 $\Delta$	R912-914	ERDS2TJ103	1/4W 10K	R984	ERDS2TJ272T	1/4W 2.7K
R701	ERDS2TJ821	1/4W 820	R915	ERDS2TJ473	1/4W 47K	R985	ERDS2TJ102	1/4W 1K
R702	ERDS2TJ102	1/4W 1K	R916	ERDS2TJ272T	1/4W 2.7K	R986	ERDS2TJ821	1/4W 820
R703	ERDS2TJ122	1/4W 1.2K	R917	ERDS2TJ152	1/4W 1.5K	R987	ERDS2TJ472	1/4W 4.7K
R704	ERDS2TJ152	1/4W 1.5K	R918	ERDS2TJ472	1/4W 4.7K	R988	ERDS2TJ222	1/4W 2.2K
R705	ERDS2TJ182	1/4W 1.8K	R919	ERDS2TJ223	1/4W 22K	R989, 990	ERDS2TJ103	1/4W 10K
R706	ERDS2TJ222	1/4W 2.2K	R920	ERDS2TJ392T	1/4W 3.9K	R991	ERDS2TJ223	1/4W 22K
R707	ERDS2TJ332	1/4W 3.3K	R921	ERDS2TJ471	1/4W 470	R992	ERDS2TJ272T	1/4W 2.7K
R708	ERDS2TJ472	1/4W 4.7K	R922, 923	ERDS2TJ103	1/4W 10K	R993	ERDS2TJ103	1/4W 10K
R709	ERDS2TJ682T	1/4W 6.8K	R924	ERDS2TJ102	1/4W 1K	R994	ERDS2TJ472	1/4W 4.7K
R710	ERDS2TJ123	1/4W 12K	R925	ERDS2TJ105T	1/4W 1M	R995	ERDS2TJ103	1/4W 10K
R711	ERDS2TJ223	1/4W 22K	R926	ERDS2TJ223	1/4W 22K	R996	ERDS2TJ271	1/4W 270
R712	ERDS2TJ683	1/4W 68K	R927	ERDS2TJ472	1/4W 4.7K	R997	ERDS2TJ472	1/4W 4.7K
R713	ERDS2TJ821	1/4W 820	R928-930	ERDS2TJ103	1/4W 10K	R998	ERDS2TJ822	1/4W 8.2K
R714	ERDS2TJ102	1/4W 1K	R931, 932	ERDS2TJ102	1/4W 1K	R999	ERDS2TJ103	1/4W 10K
R715	ERDS2TJ122	1/4W 1.2K	R933	ERDS2TJ182	1/4W 1.8K			
R716	ERDS2TJ152	1/4W 1.5K	R934	ERDS2TJ272T	1/4W 2.7K			CAPACITORS
R717	ERDS2TJ182	1/4W 1.8K	R935, 936	ERDS2TJ100	1/4W 10			
R718	ERDS2TJ222	1/4W 2.2K	R937-941	ERDS2TJ472	1/4W 4.7K	C1-4	ECEA1HK010B	50V 1U
R719	ERDS2TJ332	1/4W 3.3K	R942	ERDS2TJ822	1/4W 8.2K	C5, 6	ECEA1CK220	16V 22U
R720	ERDS2TJ472	1/4W 4.7K	R943	ERDS2TJ223	1/4W 22K	C7, 8	ECEA1CK100B	16V 10U
R721	ERDS2TJ682T	1/4W 6.8K	R944	ERDS2TJ821	1/4W 820	C9, 10	ECBT1H471KB5	50V 470P
R722	ERDS2TJ123	1/4W 12K	R945	ERDS2TJ221	1/4W 220	C11, 12	ECBT1H102KB5	50V 1000P
R723	ERDS2TJ153	1/4W 15K	R946	ERDS2TJ103	1/4W 10K	C13, 14	ECEA0JU101B	6.3V 100U
R724, 725	ERDS2TJ102	1/4W 1K	R947	ERDS2TJ392T	1/4W 3.9K	C15, 16	ECQB1H822JZ	50V 8200P
R726, 727	ERDS2TJ562	1/4W 5.6K	R948	ERDS2TJ184T	1/4W 180K	C17-20	ECEA1EK4R7	25V 4.7U
R728	ERDS2TJ223	1/4W 22K	R949	ERDS2TJ103	1/4W 10K	C21, 22	ECBT1H471KB5	50V 470P
R729	ERDS2TJ683	1/4W 68K	R950	ERDS2TJ223	1/4W 22K	C23	ECBT1H102KB5	50V 1000P
R801	ERDS2TJ122	1/4W 1.2K	R951	ERDS2TJ821	1/4W 820	C24	ECEA0JU101B	6.3V 100U

Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks			
C25, 26	ECQB1H472JZ	50V 4700P	C354, 355	ECKW1H222KB5	50V 2200P			
C27, 28	ECQB1H223JZ3	50V 0.022U	C356	ECKD1H682KB	50V 6800P			
C29, 30	ECQB1H103JZ	50V 0.01U	C357	ECKR1H103ZF5	50V 0.01U			
C31, 32	ECQB1H223JZ3	50V 0.022U	C358	ECEA1AU221	10V 220U			
C33, 34	ECQV1H563JZ3	50V 0.056U	C359	ECKR1H103ZF5	50V 0.01U			
C35, 36	ECQB1H153JZ	50V 0.015U	C360	ECKR1H472KB5	50V 4700P			
C37, 38	ECBT1H181KB5	50V 180P	C361	ECKR1H103ZF5	50V 0.01U			
C39, 40	ECEA1HK4R7	50V 0.47U	C363, 364	ECKT1H223ZF	50V 0.022U			
C41, 42	ECQB1H153JZ	50V 0.015U	C365, 366	ECKR2H821KB5	500V 820P			
C43, 44	ECEA1EK4R7	25V 4.7U	C367, 368	ECBT1H121KB5	50V 120P			
C45, 46	ECBT1H561KB5	50V 560P	C369, 370	ECQV1H473JZ3	50V 0.047U			
C47, 48	ECKR2H121KB5	500V 120P	C371, 372	ECQB1H223JZ3	50V 0.022U			
C49, 50	ECQV1H104JZ3	50V 0.1U	C373, 374	ECQB1H103JZ	50V 0.01U			
C51, 52	ECEA0JK470	6.3V 47U	C375, 376	ECKT1H122KB	50V 1200P			
C53, 54	ECBT1H391KB5	50V 390P	C377	ECEA1CK100B	16V 10U			
C55, 56	ECBT1C472KR5	16V 4700P	C378, 379	ECCF1H220K	50V 22P			
C57, 58	ECQB1H153JZ	50V 0.015U	C381	ECBT1E103ZF	25V 0.01U			
C81, 82	ECBT1H102KB5	50V 1000P	C401, 402	ECKT1H122KB	50V 1200P			
C83, 84	ECBT1H561KB5	50V 560P	C403, 404	ECKD1H152KB	50V 1500P			
C85, 86	ECKR2H121KB5	500V 120P	C405-408	ECQB1H222JZ3	50V 2200P			
C87	ECBT1H102KB5	50V 1000P	C409, 410	ECEA1HUR56B	50V 0.56U			
C107, 108	ECEA1HKAR47B	50V 0.47U	C411, 412	ECEA1HKR33	50V 0.33U			
C109, 110	ECBT1H181KB5	50V 180P	C413, 414	ECEA1EK4R7	25V 4.7U			
C111, 112	ECQB1H273JZ	50V 0.027U	C415, 416	ECEA1CK100B	16V 10U			
C113, 114	ECQB1H103JZ	50V 0.01U	C601	ECKR2H682PE	500V 6800P			
C115, 116	ECQV1H563JZ3	50V 0.056U	C603, 604	ECEA1EU102B	25V 1000U			
C117, 118	ECQB1H153JZ	50V 0.015U	C605	ECEA1EU222B	25V 2200U			
C119, 120	ECEA1EK4R7B	25V 4.7U	C606	ECKR2H682PE	500V 6800P			
C131-134	ECQB1H153JZ	50V 0.015U	C607, 608	ECEA1AU471	10V 470U			
C301	ECQP1153JZ	100V 0.015U	C609, 610	ECKR1H103ZF5	50V 0.01U			
C302	ECEA1EK4R7	25V 4.7U	C612	ECEA1HJ470	50V 47U			
C303	ECKR1H392KB5	50V 3900P	C613, 614	ECKR1H103ZF5	50V 0.01U			
C304, 305	ECKW1H222KB5	50V 2200P	C615, 616	ECEA1WJ220	35V 22U			
C306	ECKD1H682KB	50V 6800P	C617, 618	ECKR1H103ZF5	50V 0.01U			
C307	ECKR1H103ZF5	50V 0.01U	C619, 620	ECEA1AU102B	10V 1000U			
C308	ECEA1AU221	10V 220U	C621, 622	ECEA1CK470	16V 47U			
C309	ECKR1H103ZF5	50V 0.01U	C623, 624	ECBT1E103ZF	25V 0.01U			
C310	ECKR1H472KB5	50V 4700P	C625, 626	ECKR1H103ZF5	50V 0.01U			
C311	ECKR1H103ZF5	50V 0.01U	C701	ECKR1H103ZF5	50V 0.01U			
C313, 314	ECKT1H223ZF	50V 0.022U	C702	ECBT1E103ZF	25V 0.01U			
C315, 316	ECKR2H821KB5	500V 820P	C801	ECQB1H822JZ	50V 8200P			
C317, 318	ECBT1H121KB5	50V 120P	C802	ECEA1CK100B	16V 10U			
C319, 320	ECQV1H473JZ3	50V 0.047U	C803	ECCR1H470K5	50V 47P			
C321, 322	ECQB1H223JZ3	50V 0.022U	C804	ECEA1HK2R2B	50V 2.2U			
C323, 324	ECQB1H103JZ	50V 0.01U	C901	ECEA0JU222B	6.3V 2200U			
C325, 326	ECKT1H122KB	50V 1200P	C902, 903	ECKR1H103ZF5	50V 0.01U			
C327	ECEA1CK100B	16V 10U	C904	ECEA1EK4R7	25V 4.7U			
C328, 329	ECCF1H220K	50V 22P	C905	ECEA1HK010B	50V 1U			
C331	ECBT1E103ZF	25V 0.01U	C906	ECEA1CK220	16V 22U			
C351	ECQP1153JZ	100V 0.015U	C907	ECKR1H103ZF5	50V 0.01U			
C352	ECEA1EK4R7	25V 4.7U						
C353	ECKR1H392KB5	50V 3900P						

# EXPLODED VIEW

RS-TR515 RS-TR515



Note:  
When changing mechanism parts,  
apply the specified grease to areas  
marked "XX" as shown in the drawing.

Ref. No.	Part Name	Part No.
A	FLOIL AK-152	SZZOL 18

# REPLACEMENT PARTS LIST

Notes : \* Important safety notice:

Components identified by  $\Delta$  mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.

\* The parenthesized indications in the Remarks columns specify the areas. (Refer to the cover page for area.) Parts without these indications can be used for all areas.

Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET AND CHASSIS					
1	RKM0016-K1	CABINET		P1	RPG0910	CARTON BOX	(P, PX)
2	RYF0119G-K	CASSETTE LID(DECK1)		P1	RPG0911	CARTON BOX	(PC)
3	RYF0119H-K	CASSETTE LID(DECK2)		P1	RPG0912	CARTON BOX	(E, EB, EG, GC, GN)
4	SNE2129-1	SCREW		P2	RPN0296	PAD	
5	XTBS3+8JFZ1	SCREW		P3	SPSD152	ACCESSORIES BOX	
6	RGRO112B-G	REAR PANEL	(E)	P4	SPP756	PROTECTION COVER	
6	RGRO112A-E	REAR PANEL	(P, PC)			ACCESSOREIS	
6	RGRO112B-H	REAR PANEL	(EG)				
6	RGRO112B-I	REAR PANEL	(EB, GN)	A1	RQF1136	INSTRUCTION MANUAL UNIT	(P)
6	RGRO112C-E	REAR PANEL	(GC)	A1	RQF1137	INSTRUCTION MANUAL UNIT	(PC)
6	RGRO112C-F	REAR PANEL	(PX)	A1	RQF1138	INSTRUCTION MANUAL UNIT	(E)
7	RFKJSTR313PK	BOTTOM BOARD ASS'Y		A1	RQF1139	INSTRUCTION MANUAL UNIT	(EB)
7-1	RKA0009-1	FOOT		A1	RQF1140	INSTRUCTION MANUAL UNIT	(EG)
8	RKQ0089	P. C. B HOLDER		A1	RQF1141	INSTRUCTION MANUAL UNIT	(GC)
9	RMA0517	ANGLE	(E, EB, EG, GC, GN, PX)	A1	RQF1142	INSTRUCTION MANUAL UNIT	(GN)
10	RMN0137	FL HOLDER		A1	RQF1143	INSTRUCTION MANUAL UNIT	(PX)
11	RFKNSDN7AK	DAMPER GEAR ASS'Y(L)		A1-1	RFKSSTR515EK	INSTRUCTION MANUAL ASS'Y	(E)
12	RFKNSDN7BK	DAMPER GEAR ASS'Y(R)		A1-1	RFKSSTR515PC	INSTRUCTION MANUAL ASS'Y	(PC)
13	RFKGSTR515EK	FRONT PANEL ASS'Y	(E, EB, EG, GC, GN, PX)	A1-1	RQT1047-P	INSTRUCTION MANUAL	(P)
13	RFKGSTR515PK	FRONT PANEL ASS'Y	(P, PC)	A1-1	RQT1049-G	INSTRUCTION MANUAL	(GC)
13-1	RKWO139A-K1	TRANSPARENT PLATE		A1-1	RQT1051-B	INSTRUCTION MANUAL	(EB, GN)
14	RGU0030	BUTTON, POWER		A1-1	RQT1052-D	INSTRUCTION MANUAL	(EG)
15	RGU0070	BUTTON, EJECT		A1-1	RQT1053-M	INSTRUCTION MANUAL	(PX)
16	RGU0519A-K	BUTTON, OPERATION		A1-2	RQA0013	WARRANTY CARD	(E, EB, EG)
17	RGU0522A-K	BUTTON, SYNCHRO		A1-2	SQX7071-1	WARRANTY CARD	(PX)
18	RGV0072-K	KNOB, TIMER		A1-2	SQX7179	WARRANTY CARD	(P)
19	RGWO109-K	KNOB, REC LEVEL		A1-2	SQX7183	WARRANTY CARD	(PC)
20	RGWO110-K	KNOB, BALANCE/BIAS ADJ.		A1-2	SQX7186	WARRANTY CARD	(GN)
21	RKF0169A-K	CASSETTE HOLDER		A1-3	RQCB0169	SERVICENTER LIST	(E, EB, EG, GC, GN)
21-1	QBP2006A	TAPE PRESSURE SPRING		A1-3	SQX9129-1	SERVICENTER LIST	(P)
22	RMA0406	EJECT ANGLE		A1-3	SQX9131	SERVICENTER LIST	(PC)
23	RMA0407	MECHANISM ANGLE		A2	RJA0004	AC POWER SUPPLY CORD	(GC, PX) $\Delta$
24	RME0068-1	SPRING		A2	SFDAC05E03	AC POWER SUPPLY CORD	(E, EG) $\Delta$
25	RML0185-1	EJECT LEVER(L)		A2	SJA173	AC POWER SUPPLY CORD	(GN) $\Delta$
26	RML0186-1	EJECT LEVER(R)		A2	SJA175	AC POWER SUPPLY CORD	(PC) $\Delta$
27	RMD0014	EJECT ROD		A2	SJA175-1	AC POWER SUPPLY CORD	(P) $\Delta$
28	SJS9331A	AC OUTLET COVER	(P, PC)	A2	SJA193	AC POWER SUPPLY CORD	(EB) $\Delta$
29	XTBS26+8J	SCREW		A3	SJP2249-3	STEREO CONNECTION CABLE	
30	XTB3+10JFZ	SCREW		A4	SJP2257T	STEREO MINI CABLE	
31	XTWS3+10Q	SCREW		A5	SJP9215	POWER PLUG ADAPTOR	(GC, PX) $\Delta$
32	XTB3+20JFZ	SCREW					
33	XTBS3+8JFZ1	SCREW	(E, EB, EG, GC, GN, PX)				
		PACKING MATERIAL					

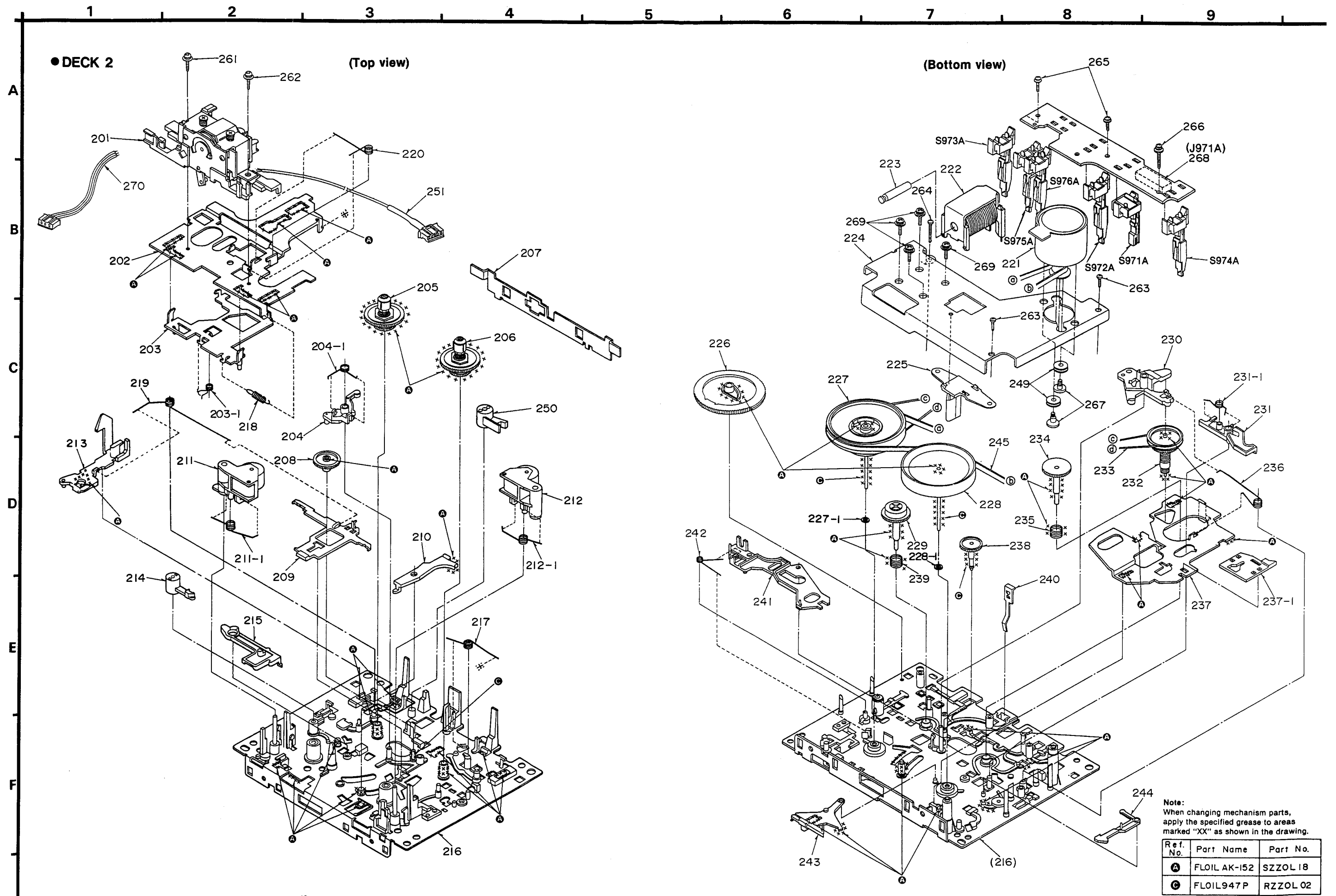
Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
		MECHANISM PARTS LIST		143	RUB515ZA	LEVER	
				144	RUB509ZA	LEVER	
				145	RDV0015	CAPSTAN BELT	
DECK1				146	RUB507ZD	EJECT ROD(R)	
101	RXQ0008	HEAD BLOCK(REC./PLAYBACK)		148	RJW144ZA	SPRING	
102	RUA793ZF	HEAD BASE		149	RHG3032ZA	RUBBER CUSHION	
103	RZLAR300	ROD		150	RNL180ZB	DAMPER ARM	
103-1	RJW143ZA	SPRING		151	REX0059	LEAD WIRE BLOCK(5P)	
104	IUB0089ZA	ARM		161	XTW2+6L	SCREW	
104-1	RJW148ZA	SPRING		162	XTW2+8L	SCREW	
105	1DM0018ZA	REEL TABLE(R)		163	XTN26+7J	SCREW	
106	1DM0017ZA	REEL TABLE(F)		164	RHE5203ZA	SCREW	
107	RML0069-1	LEVER		165	XTW2+8S	SCREW	
108	RDG5772ZC	GEAR		166	XYC2+JF16	SCREW	
109	RUB508ZB	BRAKE ROD		167	RHD26002	SCREW	
110	RUB506ZB	LEVER		168	RJS10T7ZA	CONNECTOR(10P), J971	
111	IUB0088ZA	ARM(R)		169	RHD26003	SCREW	
111-1	RJW141ZA	SPRING		170	REX0145	READ WIRE BLOCK(3P)	
112	IUB0087ZA	ARM(F)					
112-1	RJW140ZC	SPRING					
114	RNL12D	DAMPER ARM					
115	RUB503ZD	MAIN LEVER					
116	RZUSX980	CHASSIS					
117	RJW142ZA	SPRING					
118	RJD105ZA	SPRING					
120	RJW139ZA	SPRING					
121	RFM133ZA	DC MOTOR					
122	IUE0015ZA	PLUNGER					
123	RUB428ZE	MOVING IRON CORE					
124	RJL1030XB	ANGLE					
125	RMD5014ZC	ANGLE					
126	RDG5927ZG	GEAR					
127	1DW0053ZB	FLYWHEEL(F)					
127-1	RNW139ZA	WASHER					
128	1DW0054ZB	FLYWHEEL(R)					
128-1	RNW138ZA	WASHER					
129	1DG0006ZA	REEL TABLE GEAR					
130	RUB513ZD	ARM					
131	IUB0091ZA	LEVER					
131-1	RJW146ZA	SPRING					
132	1DR0011ZA	MAIN PULLEY					
133	RDV90ZB	BELT					
134	RDG5769ZA	REEL TABLE GEAR					
135	RJQ111ZB	SPRING					
136	RJW145ZA	SPRING					
137	IUB0090ZA	ROD					
137-1	RUB512ZB	F. F. ROD					
138	RDG5773ZB	GEAR					
139	RJQ112ZA	SPRING					
140	RUS609ZC	TAPE PRESSURE SPRING					
141	RUB514ZC	LEVER					
142	RJW147ZA	SPRING					



## ● DECK 1



Ref. No.	Part Name	Part No.
<b>A</b>	FLOIL AK-152	SZZOL 18
<b>C</b>	FLOIL 947 P	RZZOL 02



# REPLACEMENT PARTS LIST

Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
		MECHANISM PARTS LIST		241	RJB514ZC	LEVER	
				242	RJW147ZA	SPRING	
				243	RJB515ZA	LEVER	
DECK2				244	RJB509ZA	LEVER	
201	RXQ0008	HEAD BLOCK(REC./PLAYBACK)		245	RDV0015	CAPSTAN BELT	
202	RJA793ZF	HEAD BASE		249	RHG3032ZA	RUBBER CUSHION	
203	RZLAR300	ROD		250	RNL180ZB	DAMPER ARM	
203-1	RJW143ZA	SPRING		251	REX0059	LEAD WIRE BLOCK(5P)	
204	IUB0089ZA	ARM		261	XTW2+6L	SCREW	
204-1	RJW148ZA	SPRING		262	XTW2+8L	SCREW	
205	1DM0018ZA	REEL TABLE(R)		263	XTN26+7J	SCREW	
206	1DM0017ZA	REEL TABLE(F)		264	RHE5203ZA	SCREW	
207	RML0069-1	LEVER		265	XTW2+8S	SCREW	
208	RDG5772ZC	GEAR		266	XYC2+JF16	SCREW	
209	RJB508ZB	BRAKE ROD		267	RHD26002	SCREW	
210	RJB506ZB	LEVER		268	RJS10T7ZA	CONNECTOR(10P), J971A	
211	IUB0088ZA	ARM(R)		269	RHD26003	SCREW	
211-1	RJW141ZA	SPRING		270	REX0145	LEAD WIRE BLOCK(3P)	
212	IUB0087ZA	ARM(F)					
212-1	RJW140ZC	SPRING					
213	RJB541ZB	EJECT ROD(L)					
214	RNL1ZD	DAMPER ARM					
215	RJB503ZD	MAIN LEVER					
216	RZUSX980	CHASSIS					
217	RJW142ZA	SPRING					
218	RJD105ZA	SPRING					
219	RJW167ZA	SPRING					
220	RJW139ZA	SPRING					
221	RFM133ZA	DC MOTOR					
222	IUE0015ZA	PLUNGER					
223	RJB428ZE	MOVING IRON CORE					
224	RJL1030XB	ANGLE					
225	RMD5014ZC	ANGLE					
226	RDG5927ZG	GEAR					
227	1DW0053ZB	FLYWHEEL(F)					
227-1	RNW139ZA	WASHER					
228	1DW0054ZB	FLYWHEEL(R)					
228-1	RNW138ZA	WASHER					
229	1DG0006ZA	REEL TABLE GEAR					
230	RJB513ZD	ARM					
231	IUB0091ZA	LEVER					
231-1	RJW146ZA	SPRING					
232	1DR0011ZA	MAIN PULLEY					
233	RDV90ZB	BELT					
234	RDG5769ZA	REEL TABLE GEAR					
235	RJQ111ZB	SPRING					
236	RJW145ZA	SPRING					
237	IUB0090ZA	ROD					
237-1	RJB512ZB	F. F. ROD					
238	RDG5773ZB	GEAR					
239	RJQ112ZA	SPRING					
240	RJS609ZC	TAPE PRESSURE SPRING					

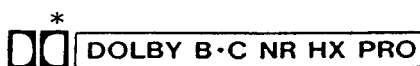
# Service Manual

Cassette Deck

**RS-TR515****Supplement**Dolby NR-Equipped  
Stereo Double Cassette Deck

Color

(K) ... Black Type



\* HX Pro headroom extension originated by Bang Olufsen and manufactured under license from Dolby Laboratories Licensing Corporation.  
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Please file and use this supplement manual together with the service manual for Model No. RS-TR515 Order No. AD9104101C0 (P, PC, E, EB, EG, GC, GN, PX) and AD9104102A1 (P1).

**Area**

Country Code	Area	Color
(P, P1)	U.S.A.	(K)
(PC)	Canada.	
(E)	Continental Europe.	
(EB)	Great Britain.	
(EG)	F.R. Germany and Italy.	
(GC)	Asia, Latin America, Middle Near East and Africa.	
(GN)	Oceania.	
(PX)	Far East-PX.	

**CHANGES****CHANGE IN REPLACEMENT PARTS LIST****Note:** • Important safety notice:

Components identified by  $\Delta$  mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

Ref. No.	Change of Part No.		Part Name & Description	Remarks
	ORIGINAL	➡ NEW		
CAPACITORS				
C13, 14	ECEA0JU101B	ECEA1AU101	E. CAPACITOR, 10V, 100μF	
C24	ECEA0JU101B	ECEA1AU101	E. CAPACITOR, 10V, 100μF	
C51, 52	ECEA0JK470	ECEA1CKA470B	E. CAPACITOR, 16V, 47μF	
CONNECTOR(S)				
CN2P	RJS6T5ZA	SJT30643-V	CONNECTOR (6P)	
CN2PA, 2PB	RJS1A1703	RJS1A6603	CONNECTOR (3P)	
CN4	RJS1A1704	RJS1A6604	CONNECTOR (4P)	
CN6	RJS1A1704	RJS1A6604	CONNECTOR (4P)	
CN10A	RJS1A1704	RJS1A6604	CONNECTOR (4P)	
CN10B	RJS1A1703	RJS1A6603	CONNECTOR (3P)	
CN19A, 19B	RJS1A1703	RJS1A6603	CONNECTOR (3P)	
CABINET AND CHASSIS				
2	RYF0119G-K	RYF0119G-K1	CASSETTE LID (DECK1)	
3	RYF0119H-K	RYF0119H-K1	CASSETTE LID (DECK2)	
ACCESSORIES				
A2	SFDAC05E03	RJA0019-1K	AC POWER SUPPLY CORD	(E, EG) ⚠

**Technics**